

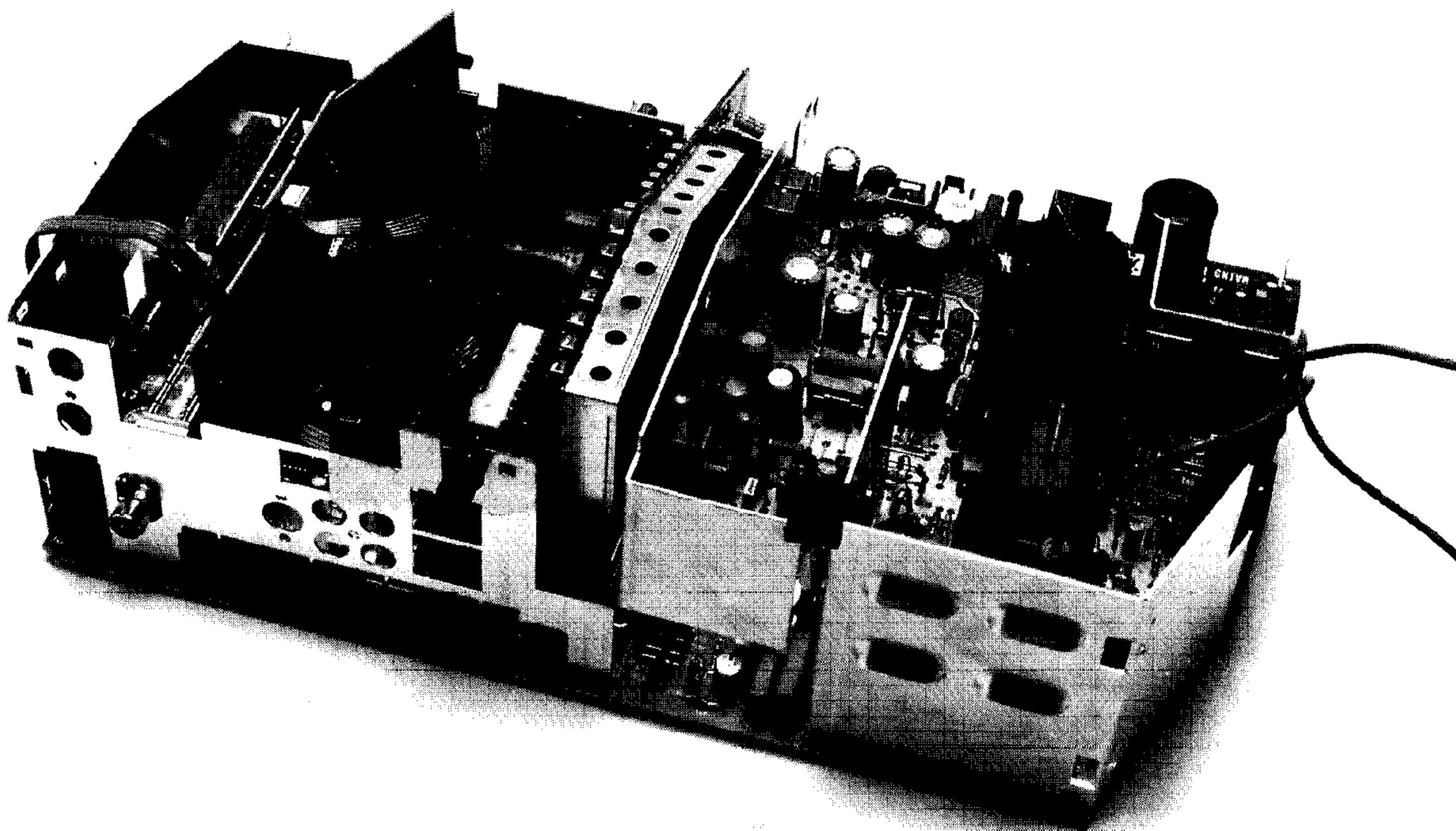
**PALplus
FEATURE STEREO
FP-CHASSIS**

TV
1995

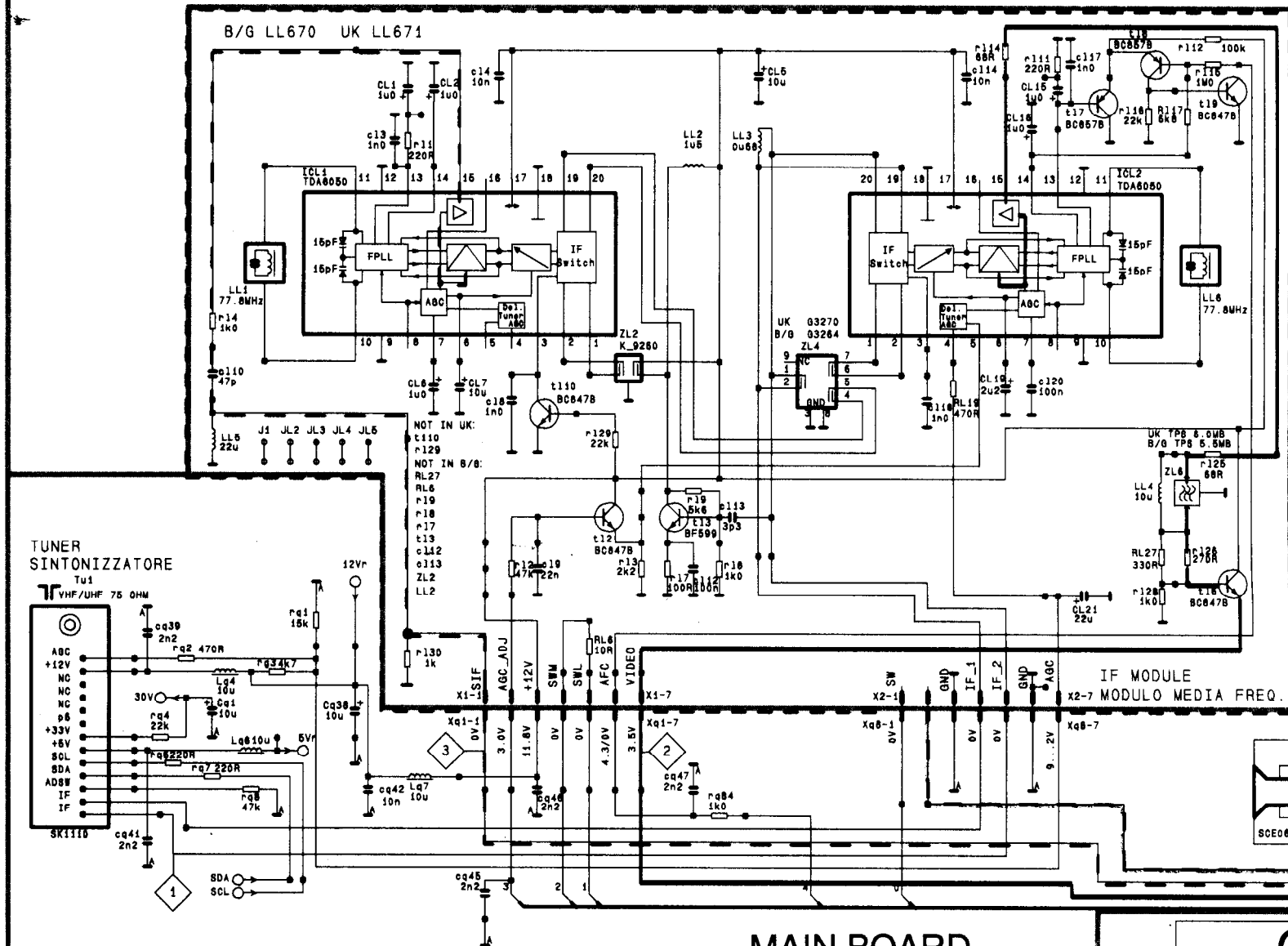
Ⓒ **Service manual**
Ⓓ **Serviceanleitung**
Ⓔ **Serviceanvisning**

Ⓕ **Manuel de service**
Ⓖ **Manuale di servizio**

NOKIA 7295 7296 8296

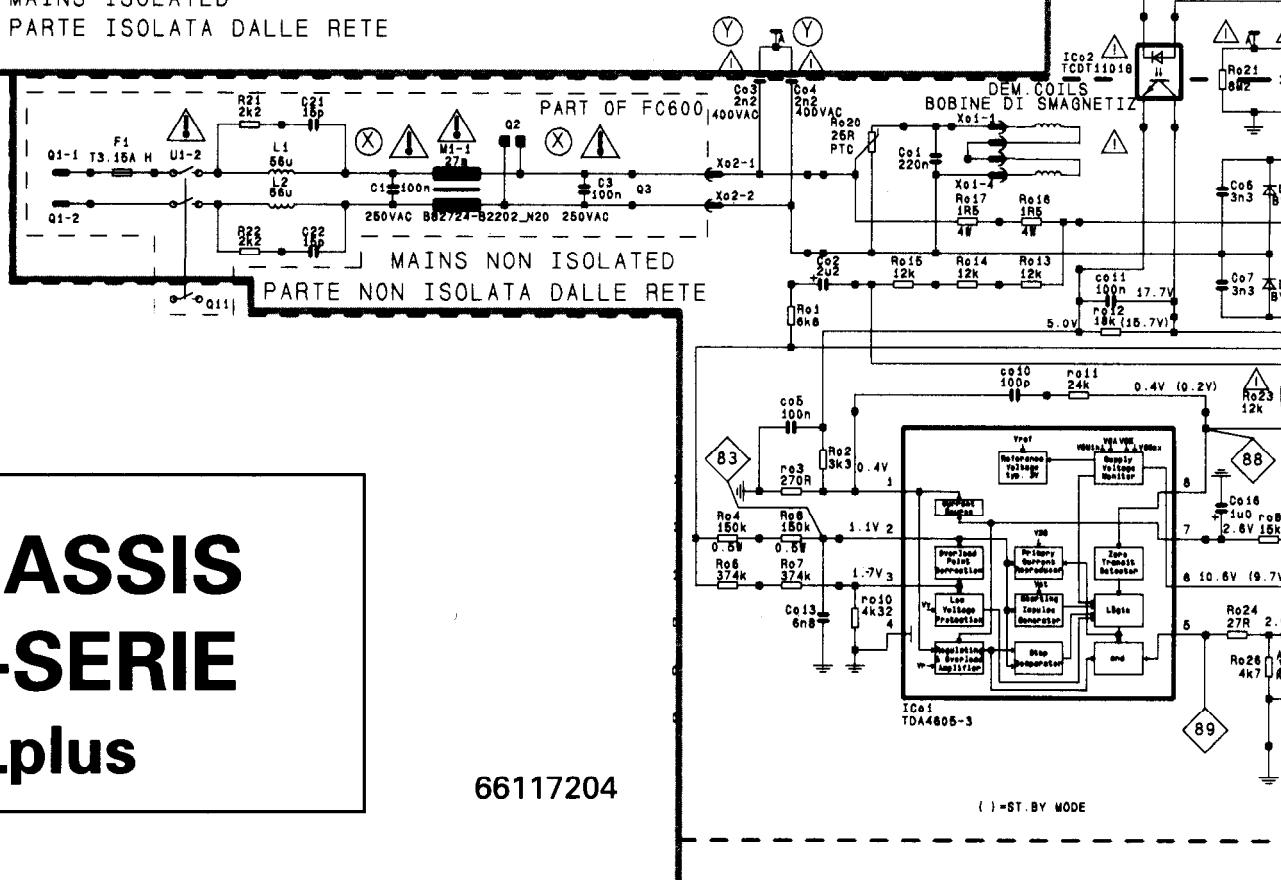


IF BLOCK



MAINS ISOLATED
PARTE ISOLATA DALLE RETE

MAIN BOARD

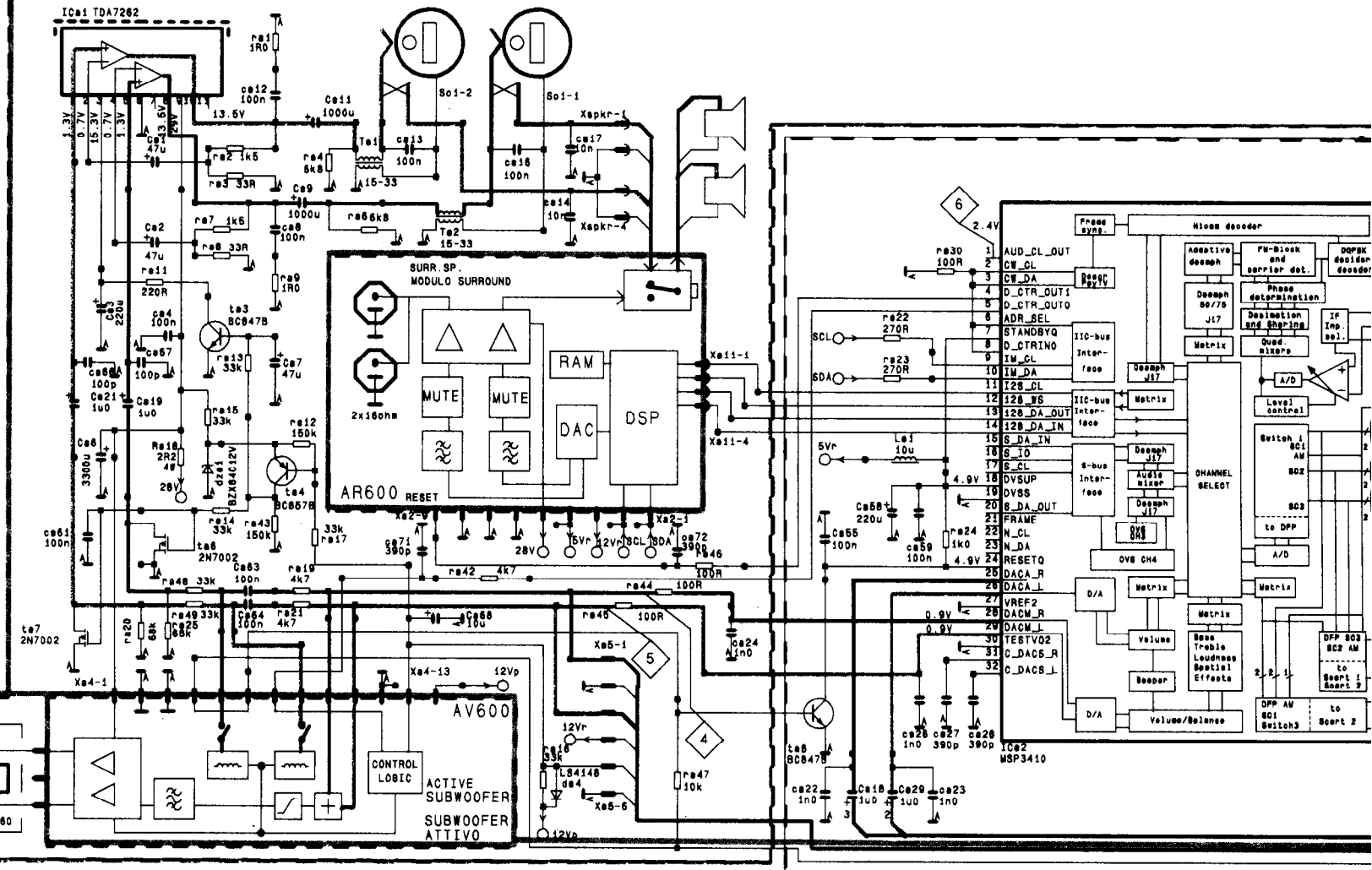


CHASSIS FP-SERIE PALplus

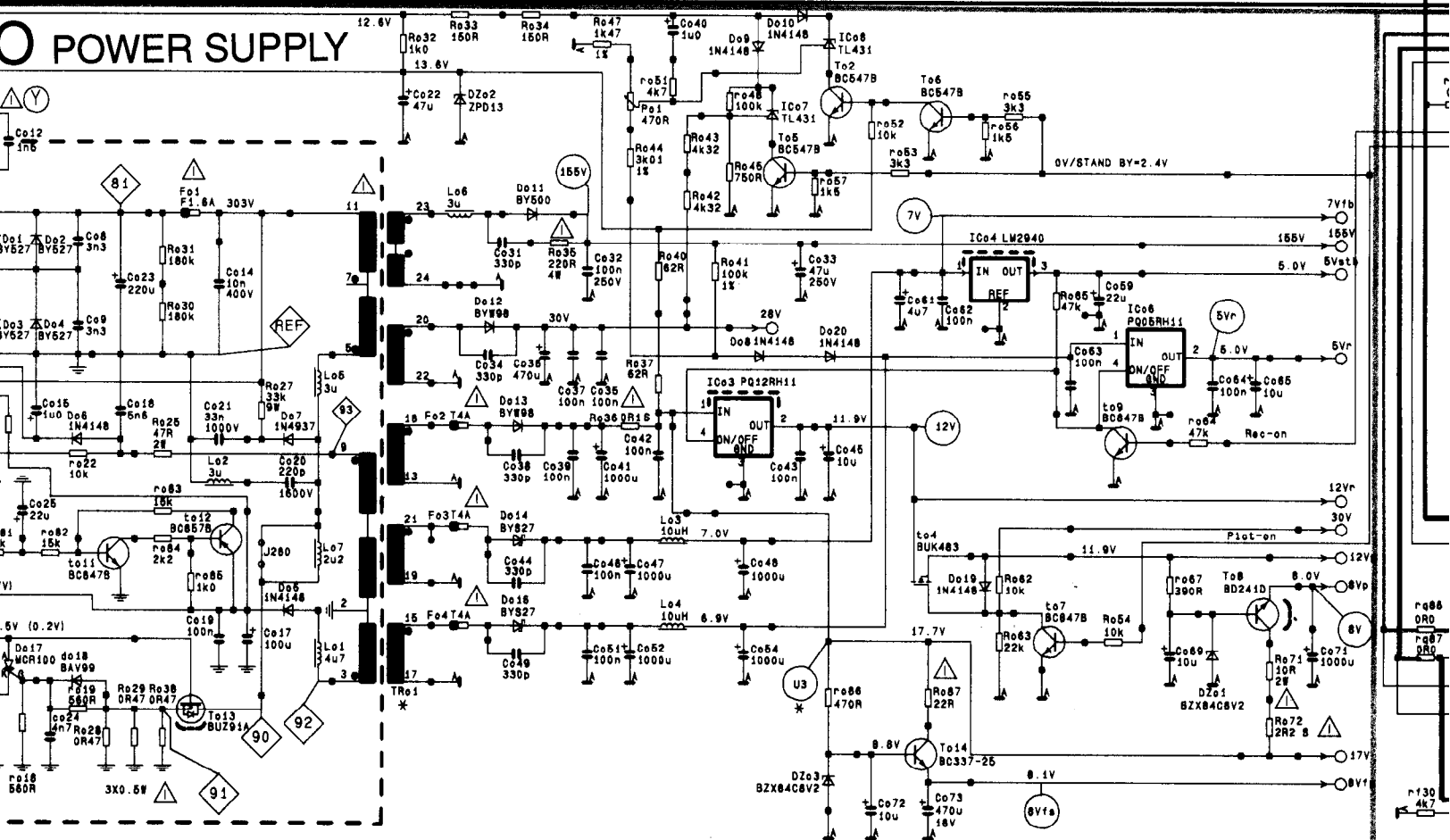
66117204

() = ST. BY MODE

A SOUND BLOCK



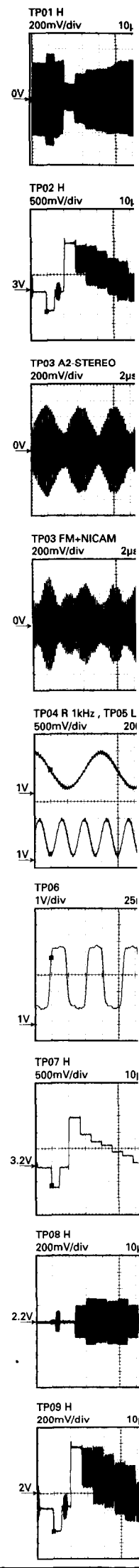
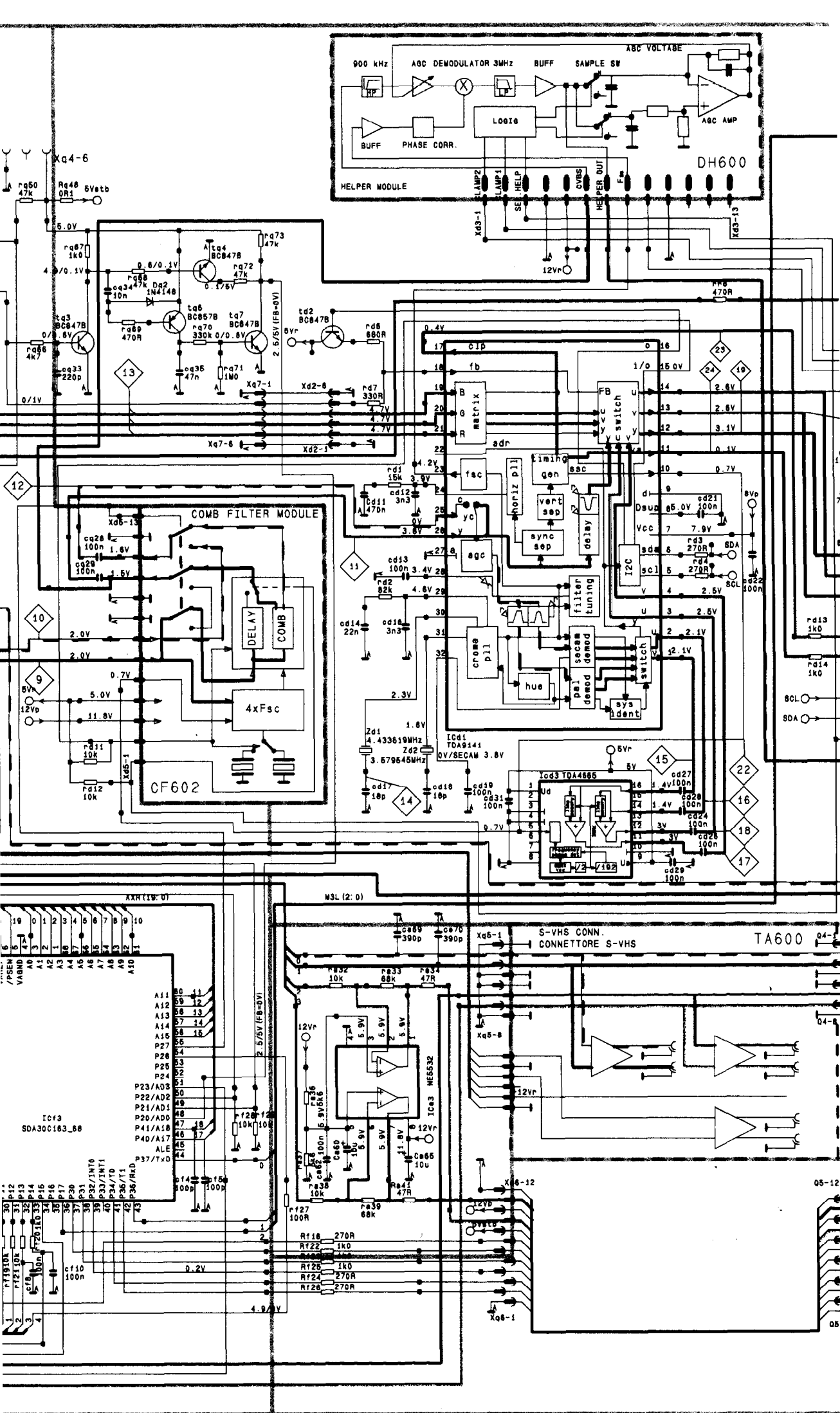
POWER SUPPLY



SCART 1

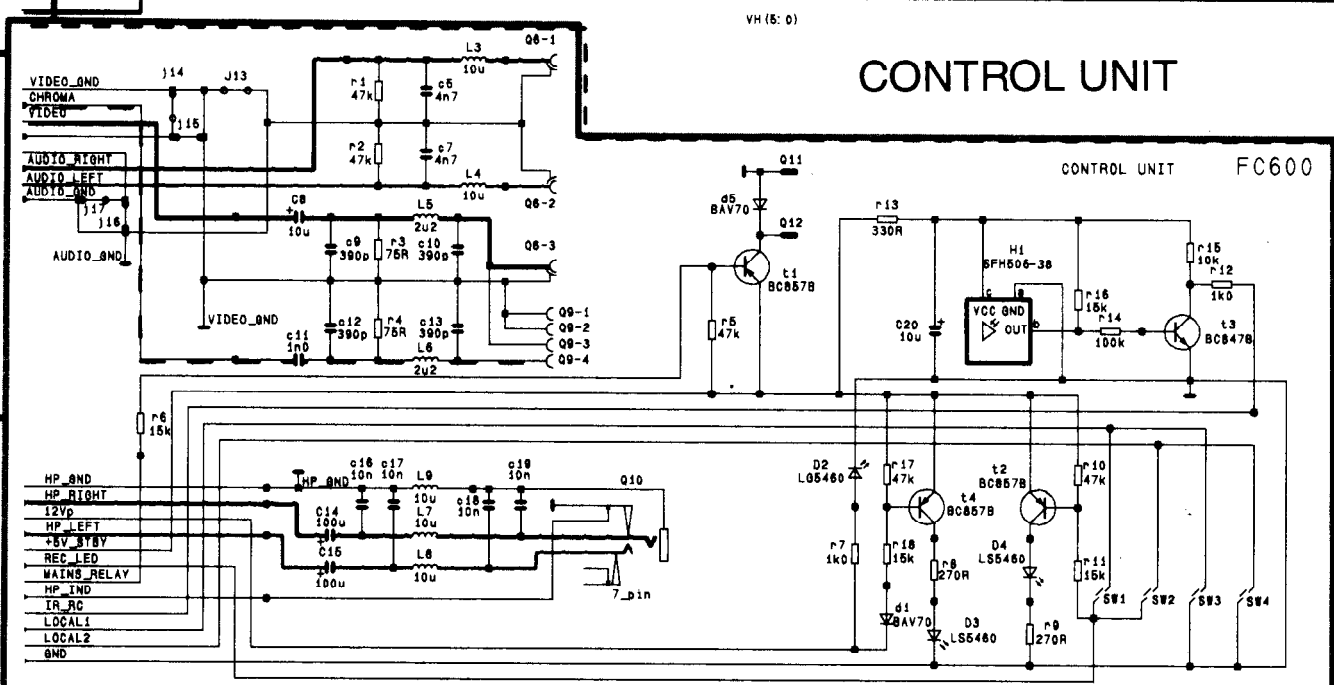
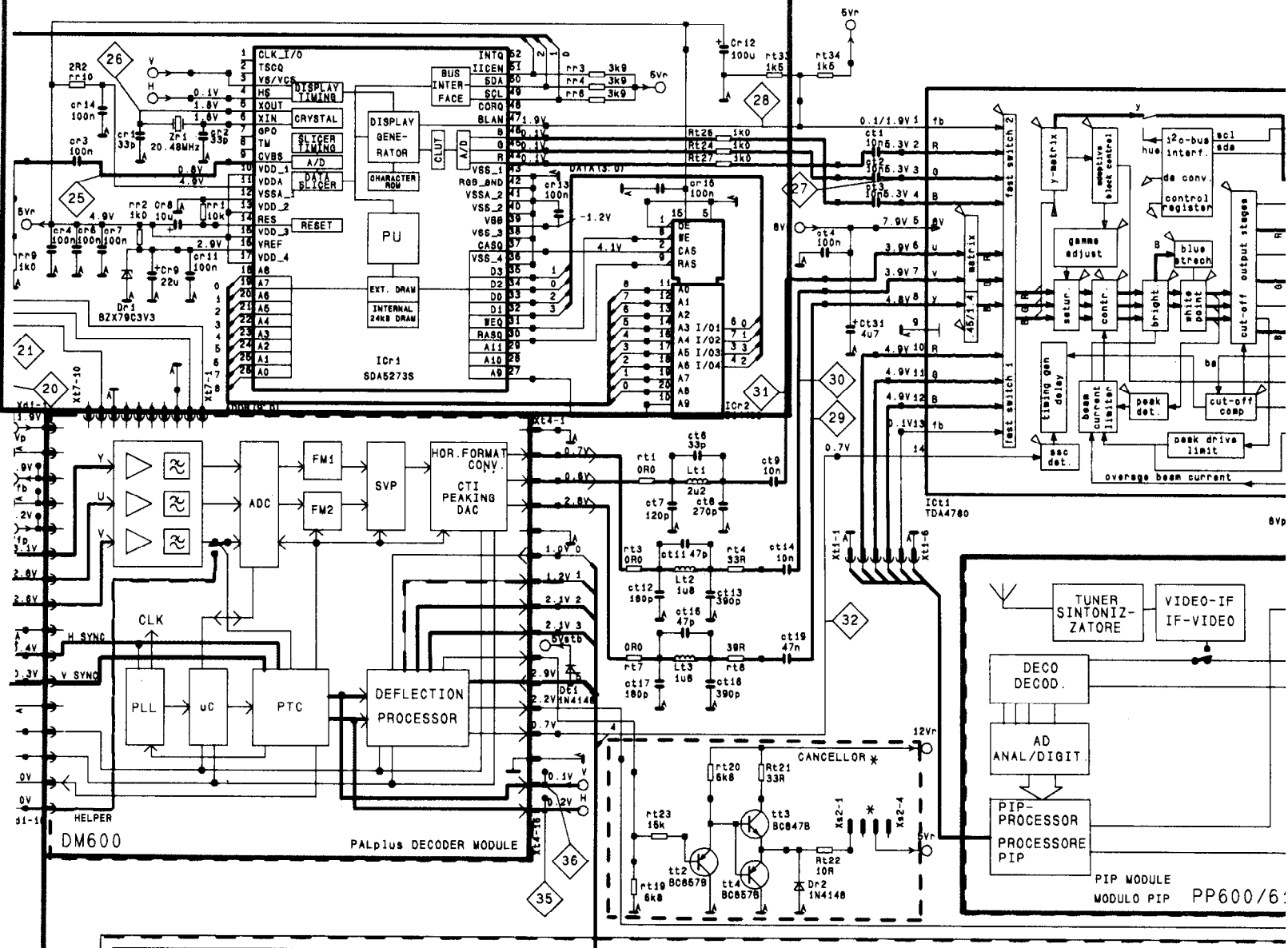


IF (4: 0)



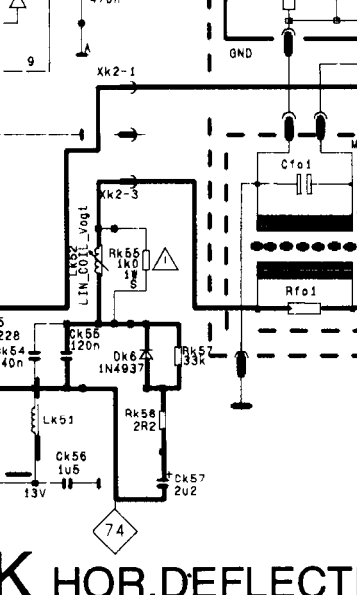
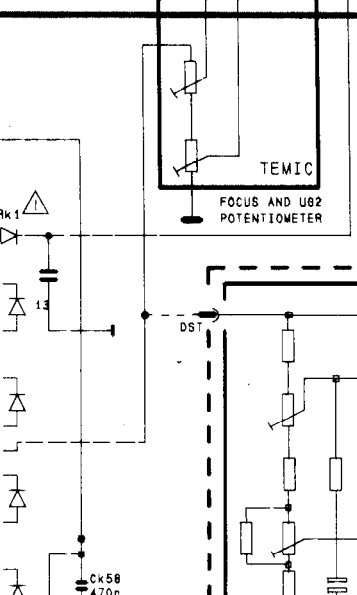
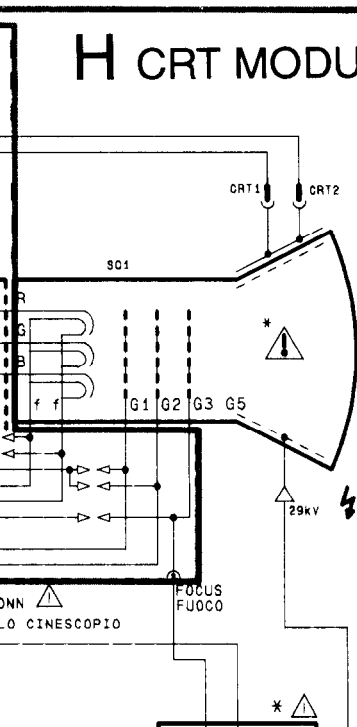
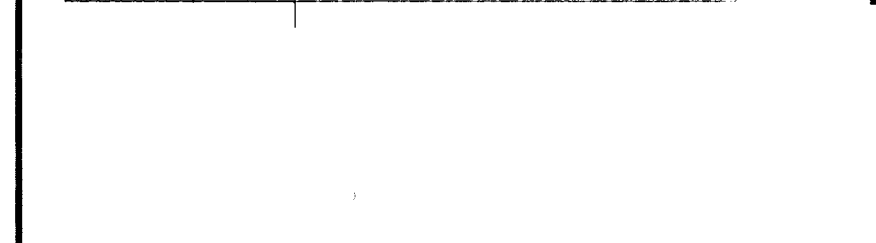
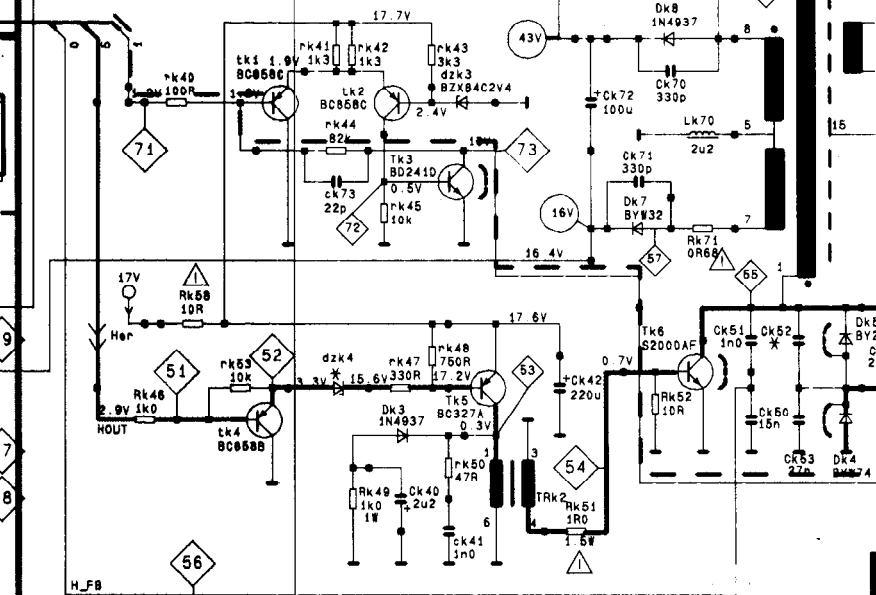
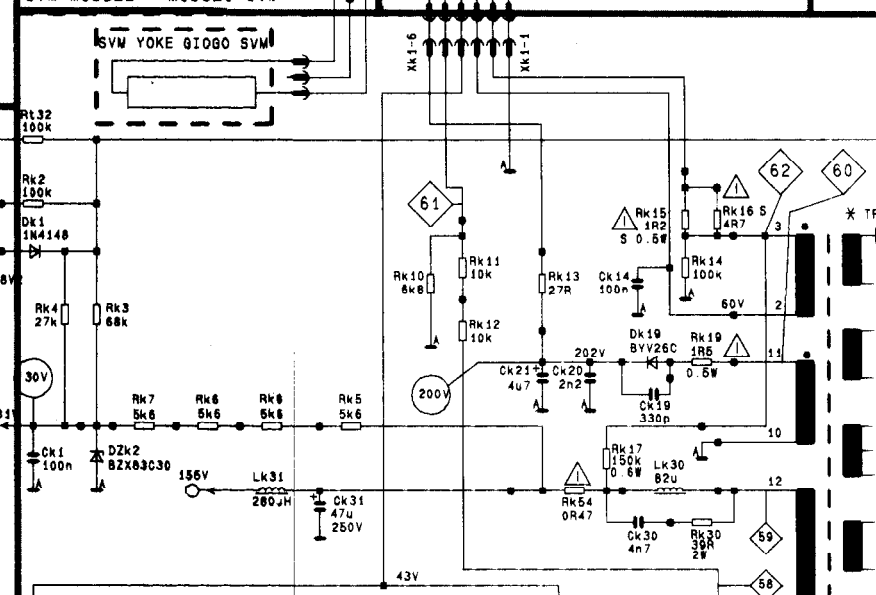
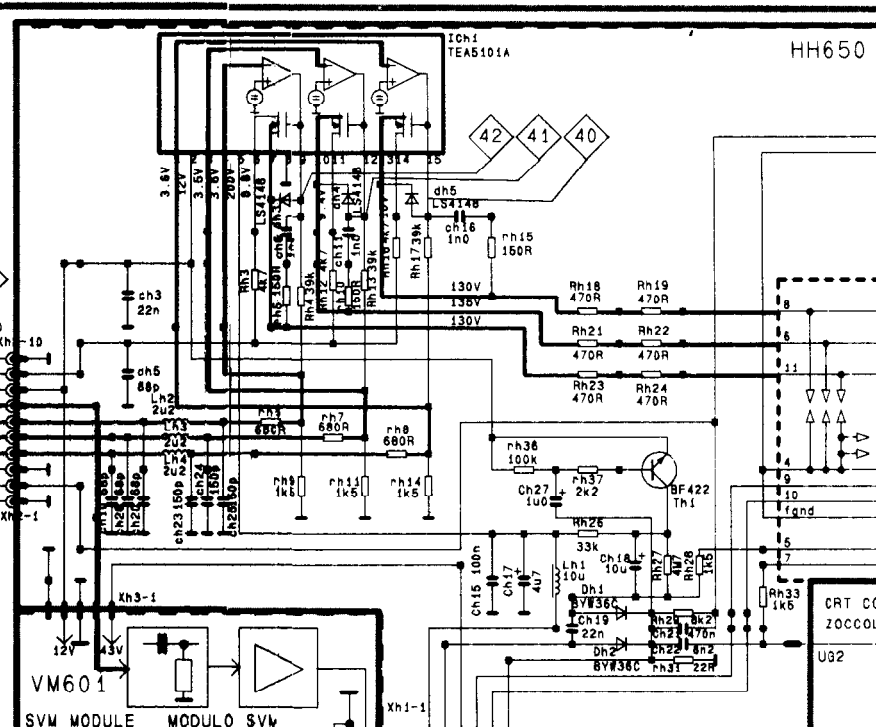
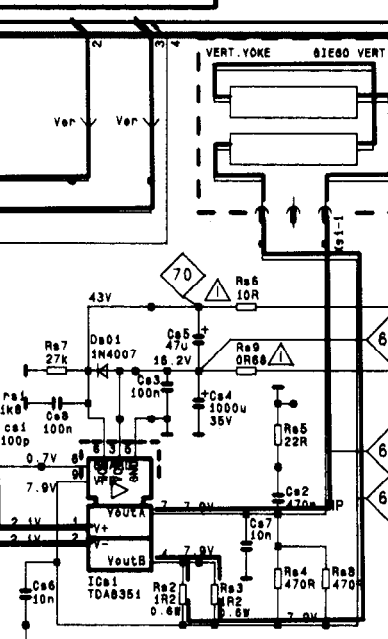
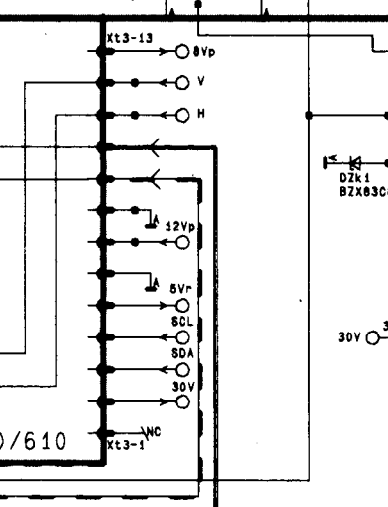
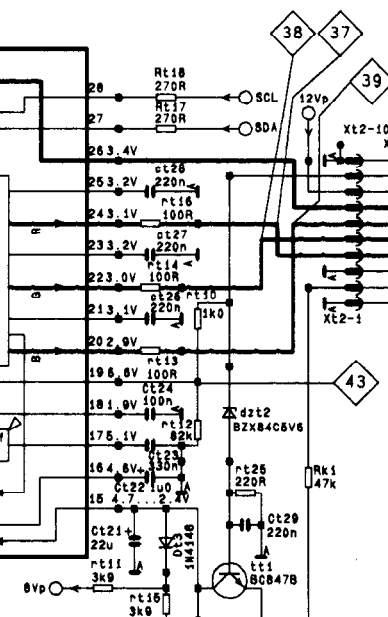
R TEXT BLOCK

T RGB PROCESSOR



S
VERT.

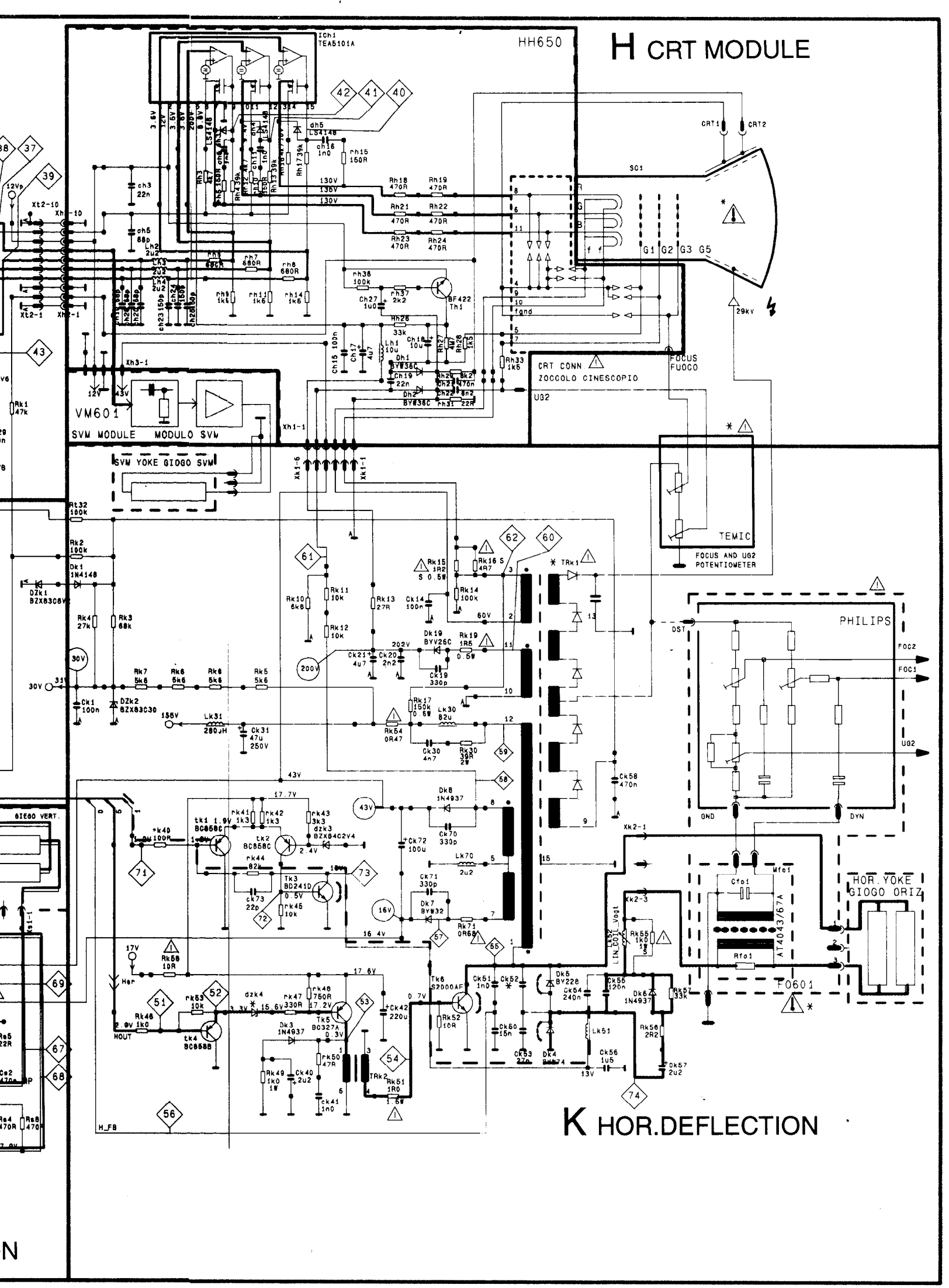
OR BLOCK

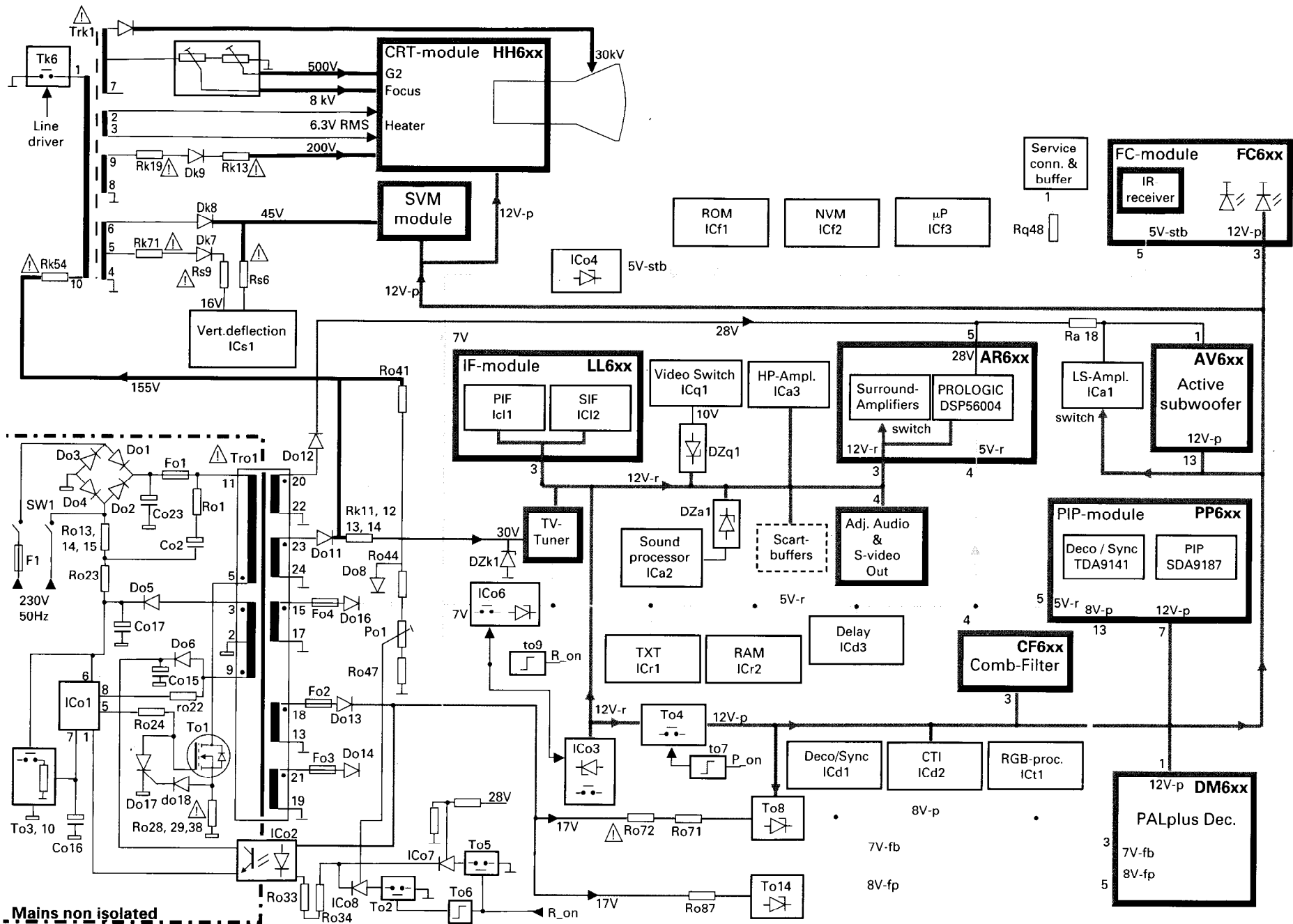


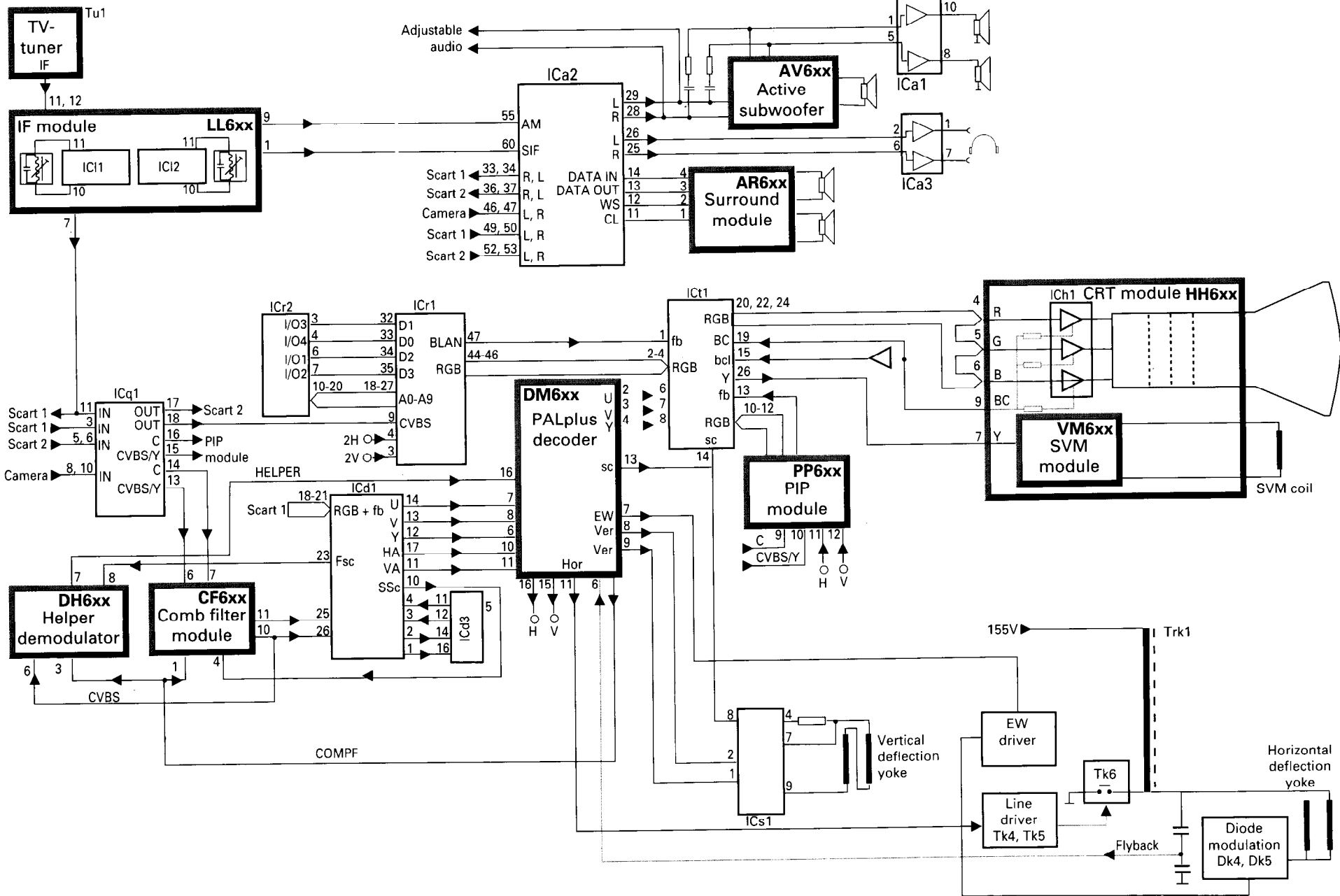
H CRT MODU

K HOR.DEFLECT

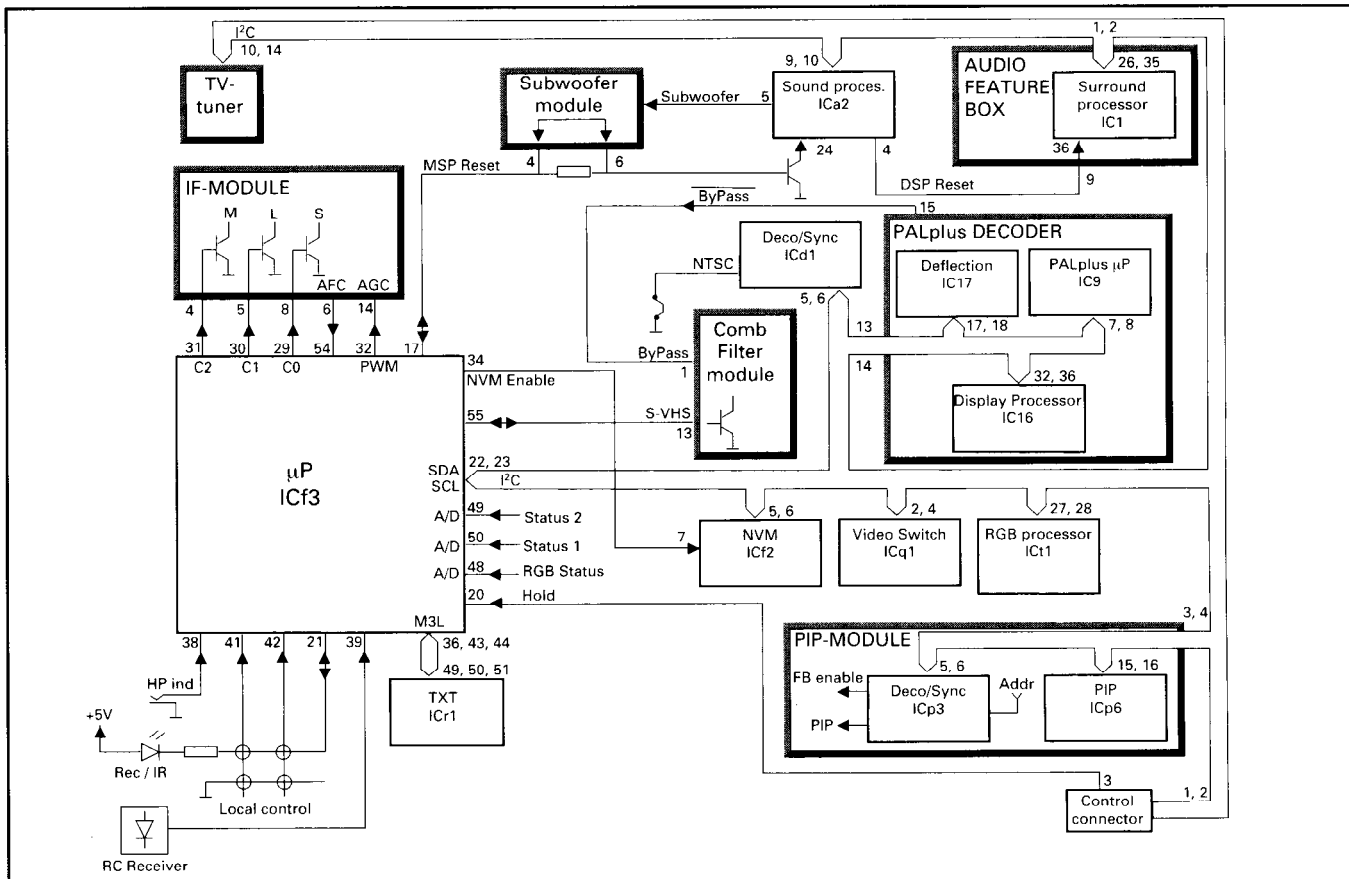
RT.DEFLECTION







BLOCK DIAGRAM, CONTROL SIGNALS



SERVICE MODE SELECTION:

Switch on the receiver by pressing the mains switch and within 5 s. press the remote control buttons MENU, TV and "i" successively.

WAHL DES SERVICE-MODUS:

Einschalten Sie das Gerät mit dem Netzschalter und innerhalb 5 Sekunden Drücken Sie nacheinander die Fernbedienungstasten MENU, TV und "i".

VAL AV SERVICE-LÄGE:

Slå på mottagaren med huvudströmbytnen och inom 5 s. tryck på fjärrkontrollens MENU, TV och "i" knappar succesivt.

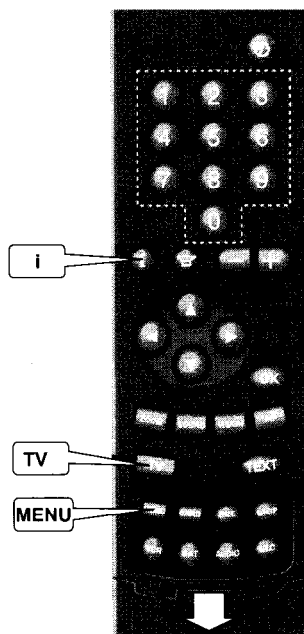
SELECTION DU MODE SERVICE:

Mettre le récepteur en marche à l'aide de l'interrupteur principal et dans les 5 secondes appuyez successivement sur les touches MENU, TV et "i" de la télécommande.

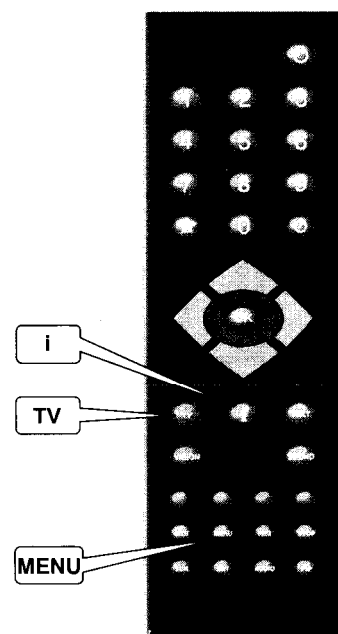
SELEZIONE DEL MODO SERVIZIO:

Accendere il ricevitore tramite l'interruttore generale e premendo in sequenza i tasti del telecomando MENU, TV e "i" entro 5 secondi.

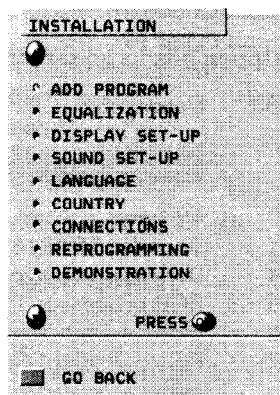
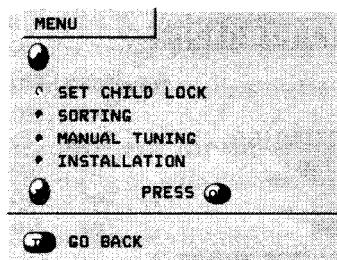
A menu



B menu



A menu



Language selection

1. Press the MENU button (under the lid).
2. Select the INSTALLATION with the cursor buttons (up-/downwards) and press the OK button.
3. Select the LANGUAGE and press the OK button.
4. Select the desired language and press the OK button.
5. Press the TV button to exit.

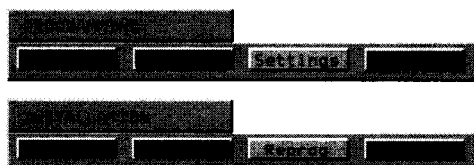
Manual tuning

1. Select programme number you want to tune.
2. Press the MENU button.
3. Select MANUAL TUNING and press the OK button.
4. Press red button (SEARCH).
5. Press the OK button to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the MENU button.
2. Select INSTALLATION and press the OK button.
3. Select REPROGRAMMING and press the OK button.
4. To retune the channels, press the OK button.
5. Press the TV button to exit.

B menu



Language selection

1. Press the PRG button.
2. Select the Install by pressing the blue button.
3. Select the Language by pressing the red button.
4. Select the desired language with the cursor buttons and press the OK button.
5. Press the TV button to exit.

Manual tuning

1. Press the PRG button.
2. Press the red button (Tune).
3. Press the red button (Search).
4. Select the prog. number on which the channel is to be stored.
5. Press the blue button (Store) to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the PRG button.
2. Press the blue button (Install).
3. Press the yellow button (Reprog).
4. Press the red button (APSi).

5. Press the green button (Reprog).
6. Press the blue button (OK) to exit.

NVRAM (ICf2)

Installation of NVRAM

In case that the NVRAM is replaced, it must be initialized and configured.

1. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively.
Note! The receiver is in the service mode although it looks like the receiver is in stand-by mode!
2. Initialize the NVRAM by pressing the RED button. The green LED flashes once. Wait approx. 15 s. When the initialization is completed, the green LED will light up.
3. Switch off the receiver by pressing the mains switch.
4. Start the receiver to the TV mode by pressing the main switch. Tune in one or more tv channels.
5. Switch off the receiver by pressing the mains switch.
6. Start the receiver into the service mode. If the receiver remains in stand-by mode, press the TV button twice and then press the "i" button.
7. Configure the receiver by pressing the RED button. The configuration menu will show up.
8. Press the OK button.
9. After that make all of the service adjustments (see section "SERVICE ADJUSTMENTS VIA IIC BUS").
10. Switch off the receiver by pressing the mains switch.

Re-initialization of NVRAM

For example when the receiver doesn't start to normal picture, the NVRAM may need re-initialization.

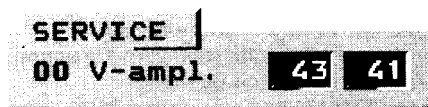
1. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively.
Note! The receiver is in the service mode although it looks like the receiver is in stand-by mode!
2. Select the initialization of the NVRAM by pressing the RED button. The green LED will light up. Wait approx. 2 s. After that, press the BLUE (then wait approx. 2 s.), 2, 5 and 4 (then wait approx. 2 s.) buttons.
3. Press the OK button to initialize the NVRAM. Initialization will take approx. 15 s.
4. Switch off the receiver by pressing the mains switch.
5. Start the receiver to the TV mode by pressing the main switch. Tune in one or more tv channels.
6. Switch off the receiver by pressing the mains switch.
7. Start the receiver into the service mode. If the receiver remains in stand-by mode, press the TV button twice and then press the "i" button.
8. Configure the receiver by pressing the RED button. The configuration menu will show up.
9. Press the OK button.
10. After that make all of the service adjustments (see section "SERVICE ADJUSTMENTS VIA IIC BUS").
11. Switch off the receiver by pressing the mains switch.

SERVICE ADJUSTMENTS

SERVICE MODE SELECTION

1. The receiver is set to the service mode by switching on the receiver with the main switch and within 5 seconds pressing the remote control buttons MENU, TV and "i" successively.

Note! If the receiver remains in stand by mode after selecting the service mode, switch on the receiver by pressing the TV button twice and select the service mode by pressing the "i" button.



In the service mode an adjustment menu (including the adjustment number and name, initializing (left) and adjustment (right)) values is shown on the screen.

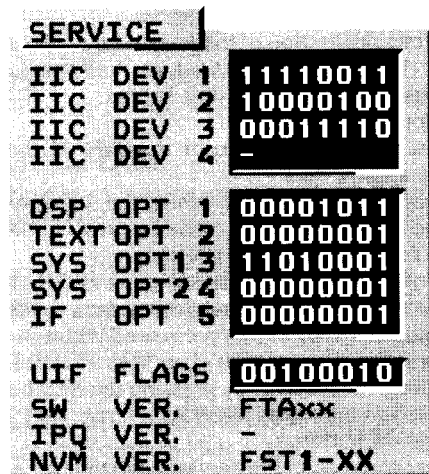
2. Return from the service mode by switching off the receiver with the main switch.

CONFIGURATION AND FAULT DIAGNOSIS

The set must be configured after adding or removing some options. By pressing the red button in the service mode, the processor checks all possible addresses of bus driven circuits and shows the settings on the screen. This feature can also be used in fault finding; if an option bit is not "1" when it should be or if it is not possible to set it to "1" by using the number buttons, the IC is either not present or faulty.

Changing of option bytes

1. When in service mode, select the configuration mode by pressing the red button.



Description

SW VER. = μ P software version.

NVM VER. = NVM software version.

2. Select IIC Device byte 1 - 4 or Option byte 1 - 5 with the cursor button (up-/downwards). Selected byte is shown highlighted.
3. Set the bits with the number buttons (0 ... 7).
4. Store the settings by pressing the OK button.
5. Return to the service mode by pressing the red button again.

OPTION BYTE DESCRIPTIONS

Option bits to be set automatically:

Bit	Description	Setting	'1'	'0'
7 6 5 4 3 2 1 0 IIC DEV 1 11110011				
0	TV tuner		Yes	No
1	Decoder TDA9141		Yes	No
4	Deflection controller TDA9151		Yes	No
5	RGB processor TDA4780		Yes	No
6	Video switch TDA6417		Yes	No
7	PIP controller SDA9188		Yes	No

7 6 5 4 3 2 1 0 IIC DEV 2 10000100				
0	PIP tuner		Yes	No
2	Megatext SDA5273		Yes	No
7	MSP3400 / 3410		Yes	No

7 6 5 4 3 2 1 0 IIC DEV 3 00011111				
0	DSP (surround)		Yes	No
1	Subwoofer		Yes	No
2	Display processor SDA9280		Yes	No
3	PALplus processor I87C752		Yes	No
4	Comb filter (SVHS line low)		Yes	No

7 6 5 4 3 2 1 0 DSP OPT 1 01011011				
0 - 3	Loudspeaker configuration (Set in user mode)			

7 6 5 4 3 2 1 0 TEXT OPT 2 00000001				
0	TXT with external RAM		Yes	No

7 6 5 4 3 2 1 0 SYS OPT13 11010001				
4	NTSC 3.58 MHz		Yes	No

7 6 5 4 3 2 1 0 IF OPT 5 00000001				
0	B/G system		Yes	No
1	I system		Yes	No
2	D/K system		Yes	No
3	L/L' system		Yes	No
5	Baseband		Yes	No

Option bits to be set manually:

Bit	Description	Setting	'1'	'0'
7 6 5 4 3 2 1 0 DSP OPT 1 01011011				
4	Bass splitting		Yes	No
6	Pre-equalization for surround DSP		Yes	No

7 6 5 4 3 2 1 0 TEXT OPT 2 00000001				
2	Flof text enabled		Yes	No

7 6 5 4 3 2 1 0 SYS OPT13 11010001				
0	Camera connector installed		Yes	No
6	NICAM enabled		Yes	No
7	Loudness enabled		Yes	No

7 6 5 4 3 2 1 0 IF OPT 5 00000001				
7	Only UHF tuner		Yes	No

SERVICE ADJUSTMENTS VIA IIC BUS

REMOTE CONTROL BUTTONS IN SERVICE MODE

When the receiver is in service mode you can select the normal TV mode by pressing the TV button and return to the service mode by pressing the "i" button. Number and cursor buttons are used for service adjustment. The yellow button hides temporarily the service menu. The OK button stores the settings.

Note! Before other adjustments U1 voltage must be adjusted.

Adjustment for different picture format

First make all adjustments with normal 4:3 picture format. The TV uses these adjustment values for all picture formats if no other adjustment were made. In each adjustment it is mentioned if the adjustment must be done separately for different picture format, repeat only those adjustments.

Note! The picture geometry adjustments must be done with 16:9 picture format.

Making the service adjustment

1. Give a two numbered code which determines the adjustment (e.g. 05 = horizontal phase, see the following tables) with the number buttons.

Note! The adjustments can also be selected with the cursor button (up-/downwards).

SERVICE

05 H-shift

27

26

2. Adjust with the cursor button (left/right).

SERVICE

05 H-shift

27

27

3. Store the new value by pressing the OK button.

Note!

- To avoid incomplete adjustments store each adjustment in the memory immediately after adjusting.
- If the adjustment has to be made separately for different picture format, select the normal user mode by pressing the TV button and change the picture format with the zoom button. Return to service mode by pressing the "i" button.

VERTICAL PICTURE ADJUSTMENTS

Adjustment	Code	OSD name	Init. value	Note!
Vertical amplitude	00	V-ampl.	43	Adjust the picture height to correct ratio.
Vertical off-centre shift	01	V-shift	3	Adjust the color edge to the center of the picture.
Vertical start scan	02	V-start	6	Adjust the lower part of the picture to correct ratio.
Vertical S-correction	03	S-corr.	27	Separate adjustment for 4:3 format!
Vertical slope 4:3 zoom (coarse)	12	Zoom-H	71	Select 4:3 zoom picture format and adjust the picture to correct ration.
Vertical slope 4:3 zoom (fine)	13	Zoom-L	0	Separate adjustment for 60Hz NTSC transmission!
Center value, 4:3 zoom shift (V-wait)	14	Shift	28	Before adjustment select 4:3 zoom picture format!

HORIZONTAL PICTURE ADJUSTMENTS

Adjustment	Code	OSD name	Init. value	Note!
EW width	04	Width	35	Separate adjustments for normal 4:3, H-phase zoom 4:3 zoom and full screen picture format (either 4:3 zoom1, 4:3 zoom2, 16:9 or PALplus format; adjust with only one of these picture formats)! In addition make same adjustments by using RGB signal!
Horizontal phase	05	H-shift	27	
H-phase RGB				
H-phase RGB zoom				
EW parabola	06	Parab.	13	Set brightness and contrast to 90% and compensate the change in picture size.
EW corner	07	Corner	0	
EW trapezium	08	Trapez	2	
EHT compenzation	09	EHT	36	

OTHER ADJUSTMENTS

Adjustment	Code	OSD name	Init. value	Note!
Red gain	17	R gain	41	This procedure is necessary e.g. when the picture tube, CRT-module etc. has been replaced! Apply a test picture and adjust the R, G and B references. Then adjust the R, G and B gains.
Green gain	18	G gain	32	
Blue gain	19	B gain	32	
Red reference	20	R ref.	52	
Green reference	21	G ref.	21	
Blue reference	22	B ref.	16	
Clamp shift	11	Clamp	0	Normally no need to adjust.
Peak white limit	23	PWL	63	Normally no need to adjust.
Gamma correction	24	GAMMA	32	Normally no need to adjust.
Tuner AGC	25	TV AGC	170	Apply a 1 mV (60 dB μ V) test signal. Adjust the picture just without noise.
CTI length	26	CTI LEN	15	Normally no need to adjust.
CTI sensitivity	27	CTI SENS	7	Normally no need to adjust.
Chrominance / luminance delay	28	Y 138	7	Normally no need to adjust. Separate adjustment for RGB signal and PALplus picture!
Black curtain, right edge	29	BCK POS	201	Normally no need to adjust.
Black curtain, left edge	30	BCK WID	90	Normally no need to adjust.

SERVICE ADJUSTMENTS

O POWER SUPPLY BLOCK

Supply voltage (U1) and protection circuit

1. Set brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Do11.
2. Adjust with Po1 the DC voltage (U1) for +155 V (± 1 V).
3. Check the over-current protection after making any service operations in the primary circuit of the power supply. Set the receiver to the stand-by mode. Short circuit the cathode of Do 13 to the ground and keep the short circuit connected. When the over-current protection works correctly, the power supply stops. Remove the short circuit and switch on the receiver by pressing the mains button.

K HORIZONTAL DEFLECTION BLOCK

Focusing

Set brightness to normal level and contrast to high level. Use cross hatch pattern and adjust the picture for optimum resolution.

(Screen grid voltage) Ug2 voltage

1. Set contrast to minimum, brightness and colour saturation to normal level.
2. At the end of the vertical blanking, there is a black current measurement pulse (clamp pulse) at pins 9, 12 and 15 of ICh1. Use an oscilloscope and find the output stage with the highest cut-off (ie. the highest voltage during the black current measurement pulse).
3. Adjust the voltage of the clamp pulse to +140 V with Ug2.

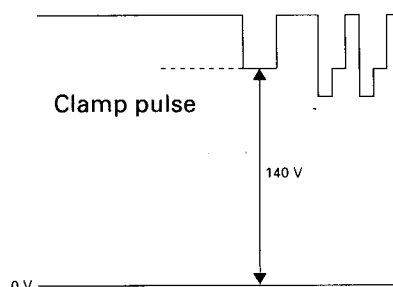
LL PICTURE AND SOUND IF MODULE

Video demodulator

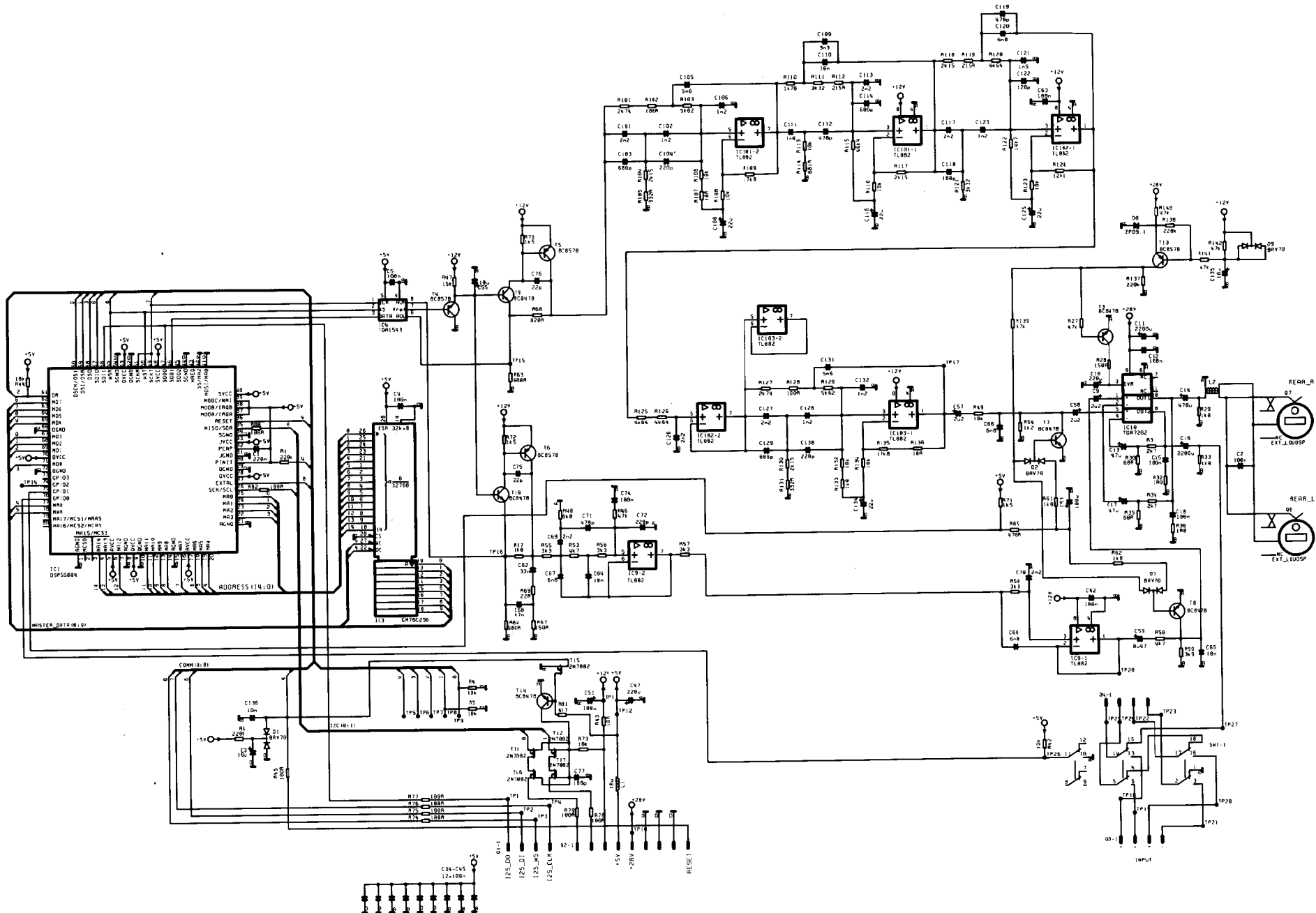
1. Apply a test signal (1 mV = 60 dB μ V).
2. Connect an universal voltmeter to the module connector X1 pin 6.
3. Adjust with LL6 the DC voltage to the point where it changes from 0 to 5 V.

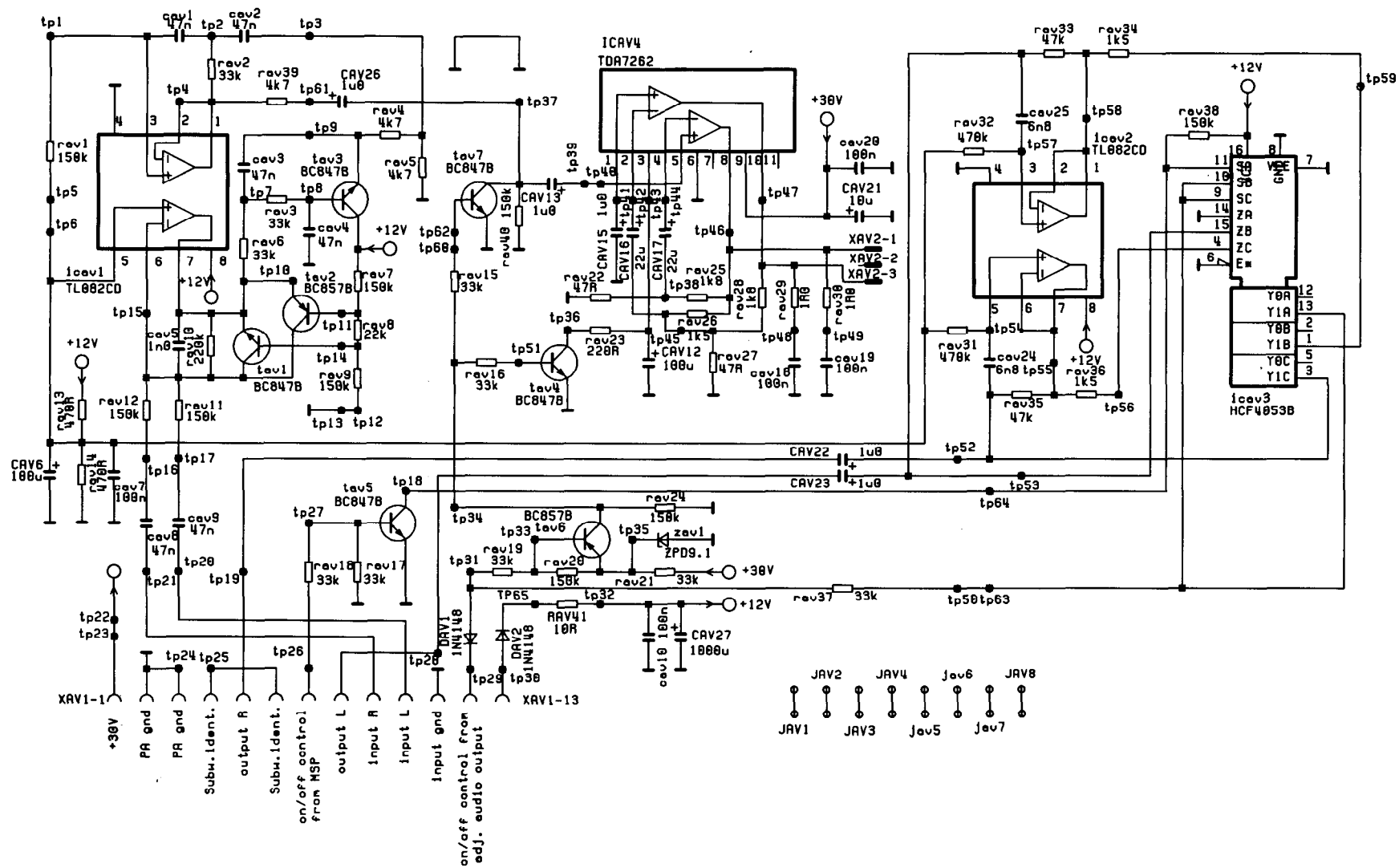
Sound demodulator

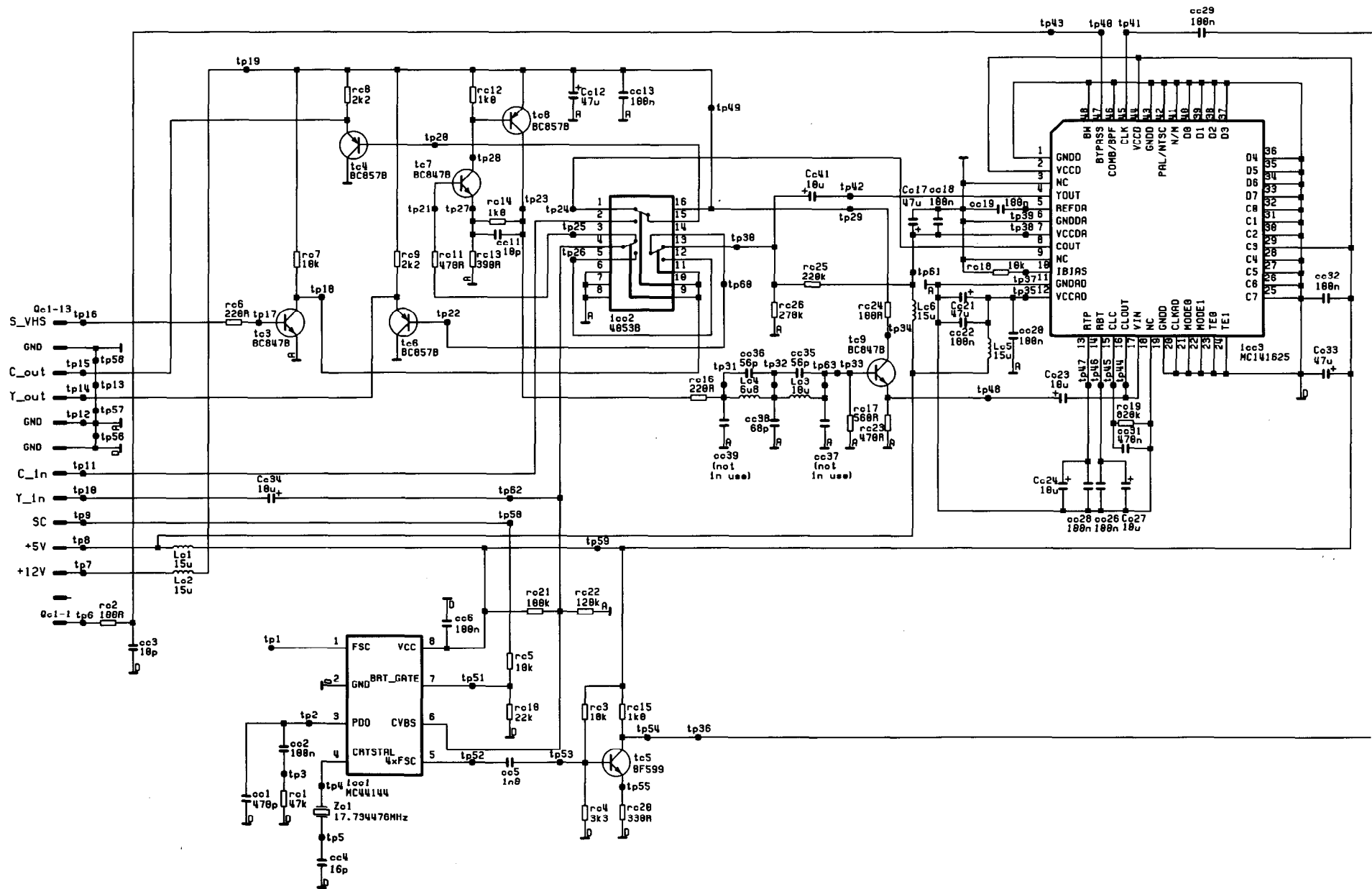
1. Apply a CCIR B/G standard (FM modulated sound) test signal.
2. Connect a universal voltmeter to ICL1 pin 13.
3. Adjust with LL1 the DC voltage for +3,7 V.

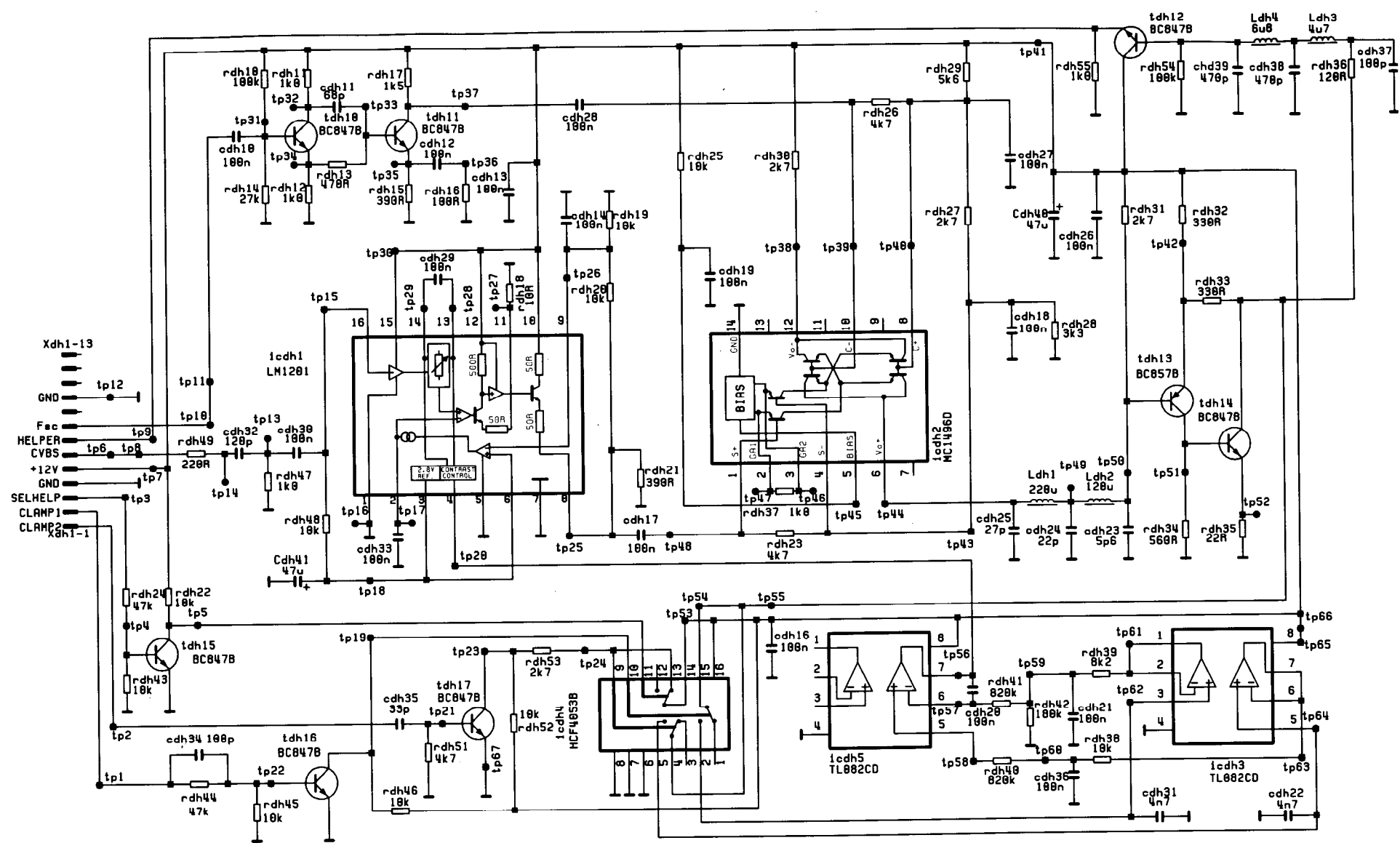


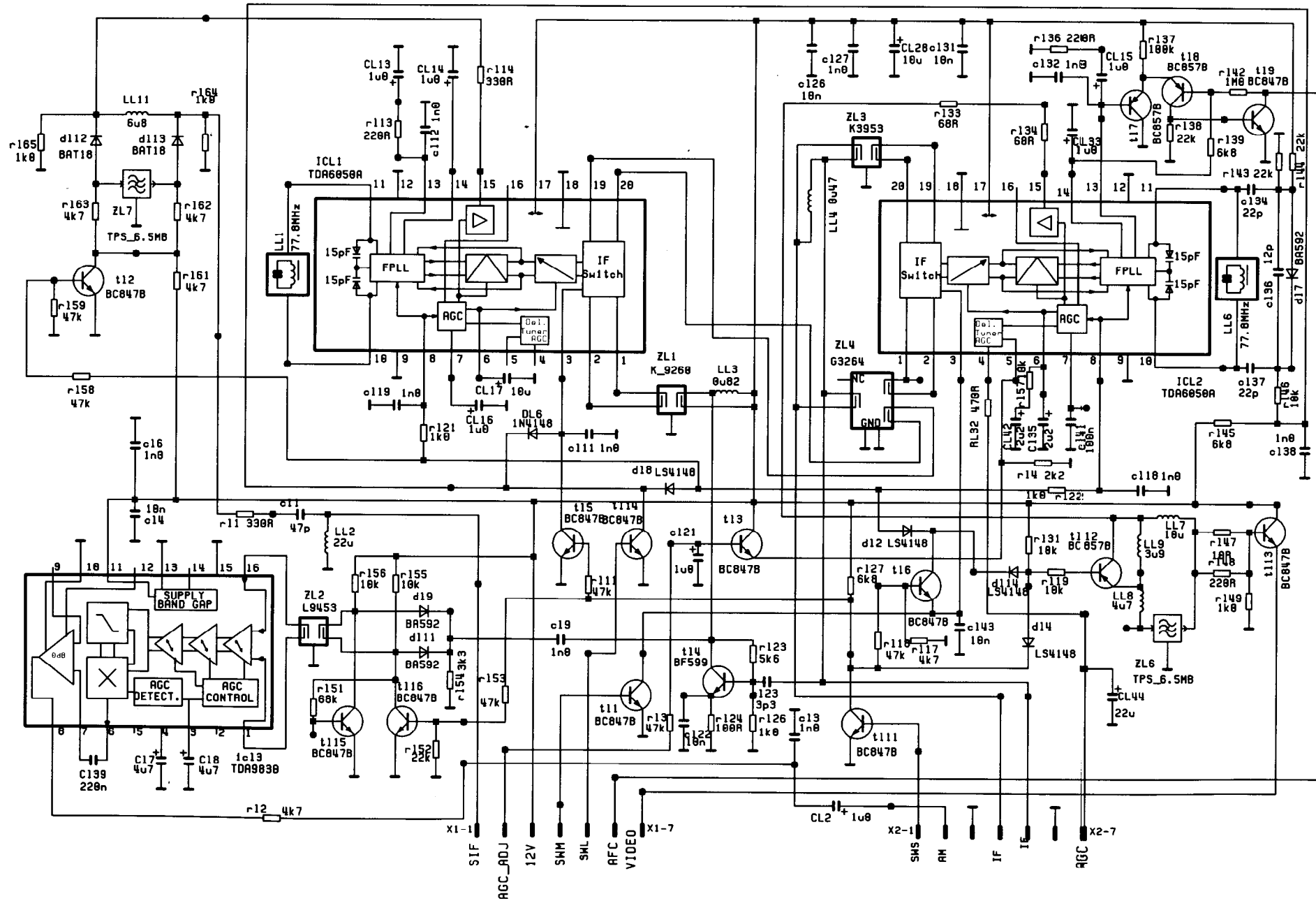
Note! Adjust the voltage with clamp pulse.

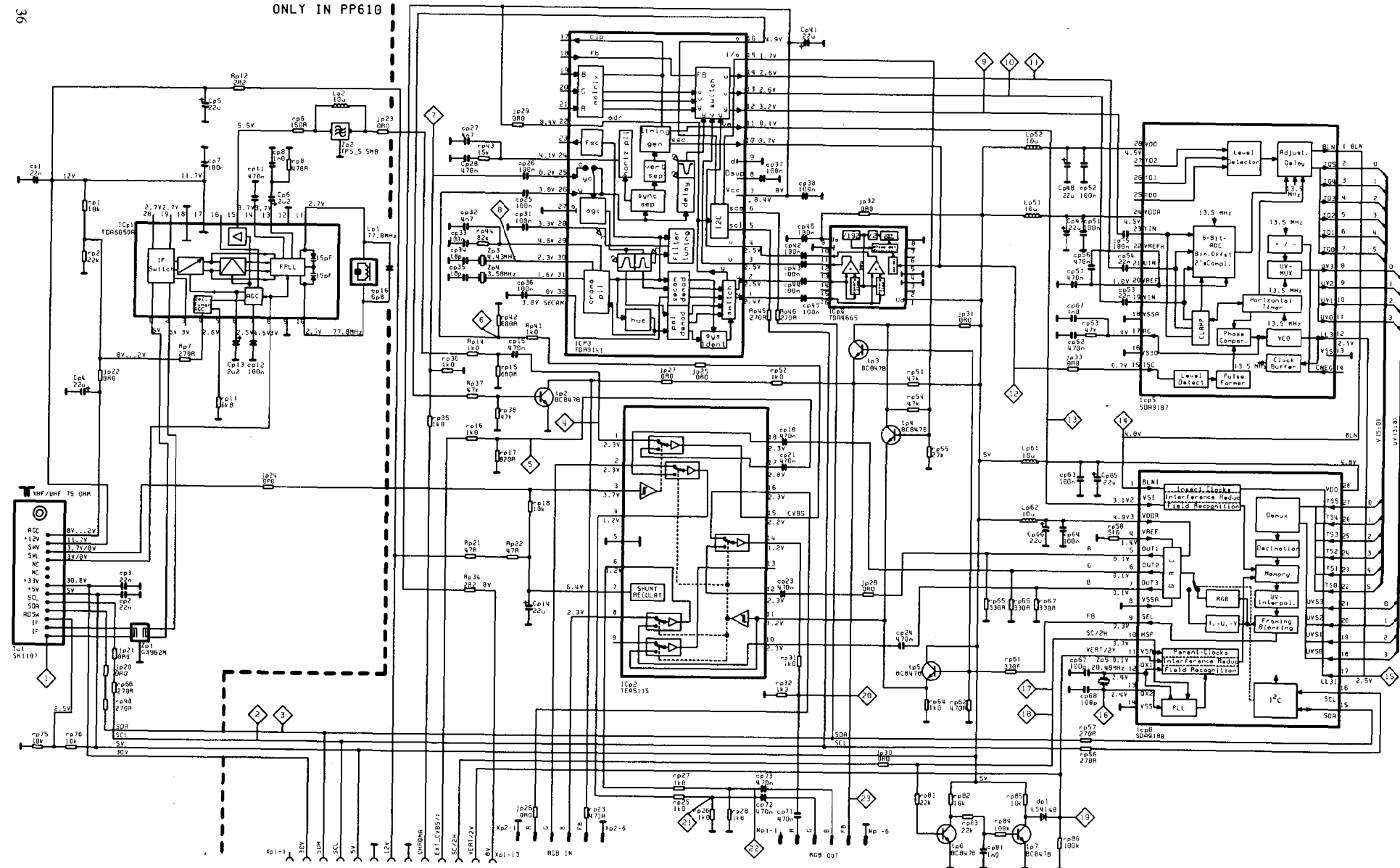




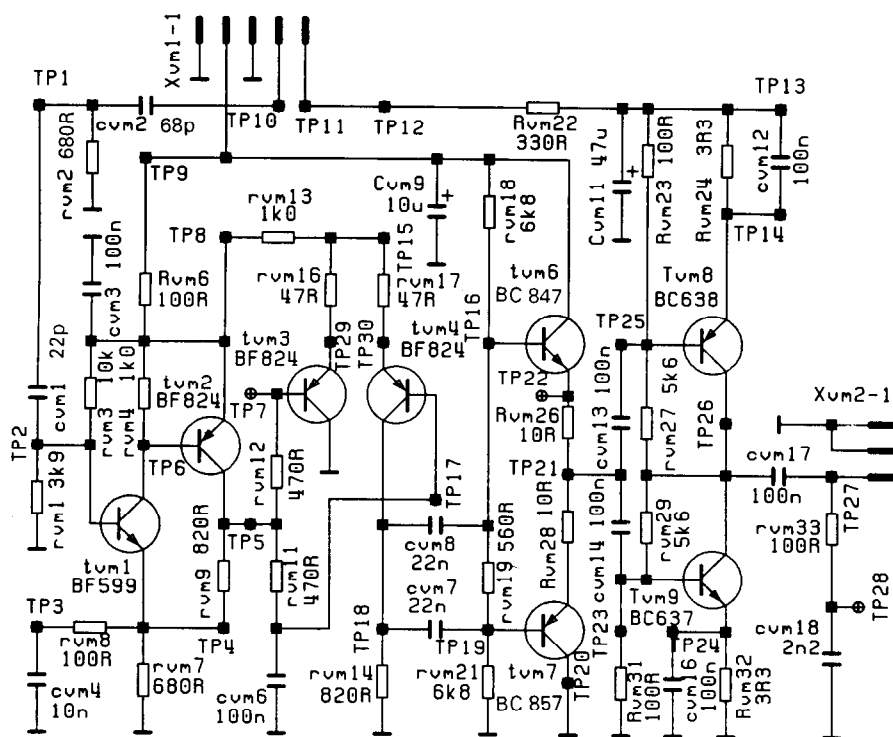




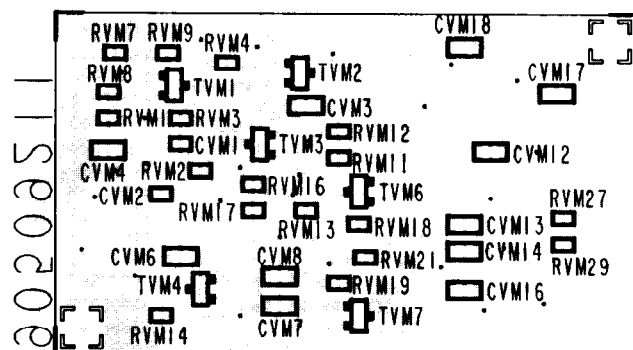
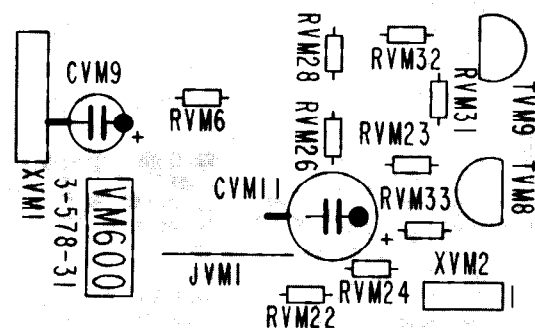


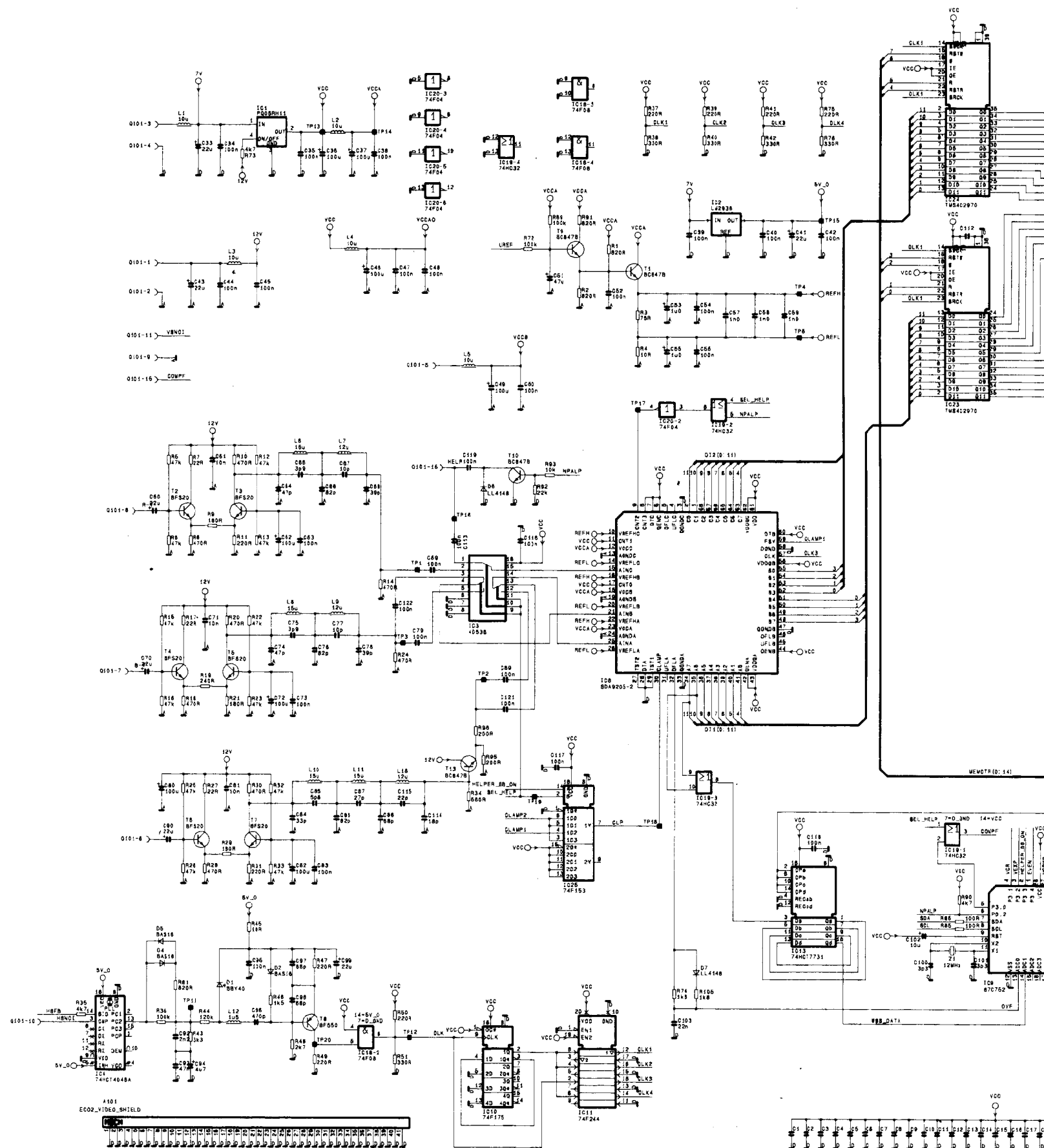


VM601 VELOCITY MODULE



VM601 VELOCITY MODULE





FEATURE STEREO FP-CHASSIS

TV

1996

ⒼⒷ Service manual

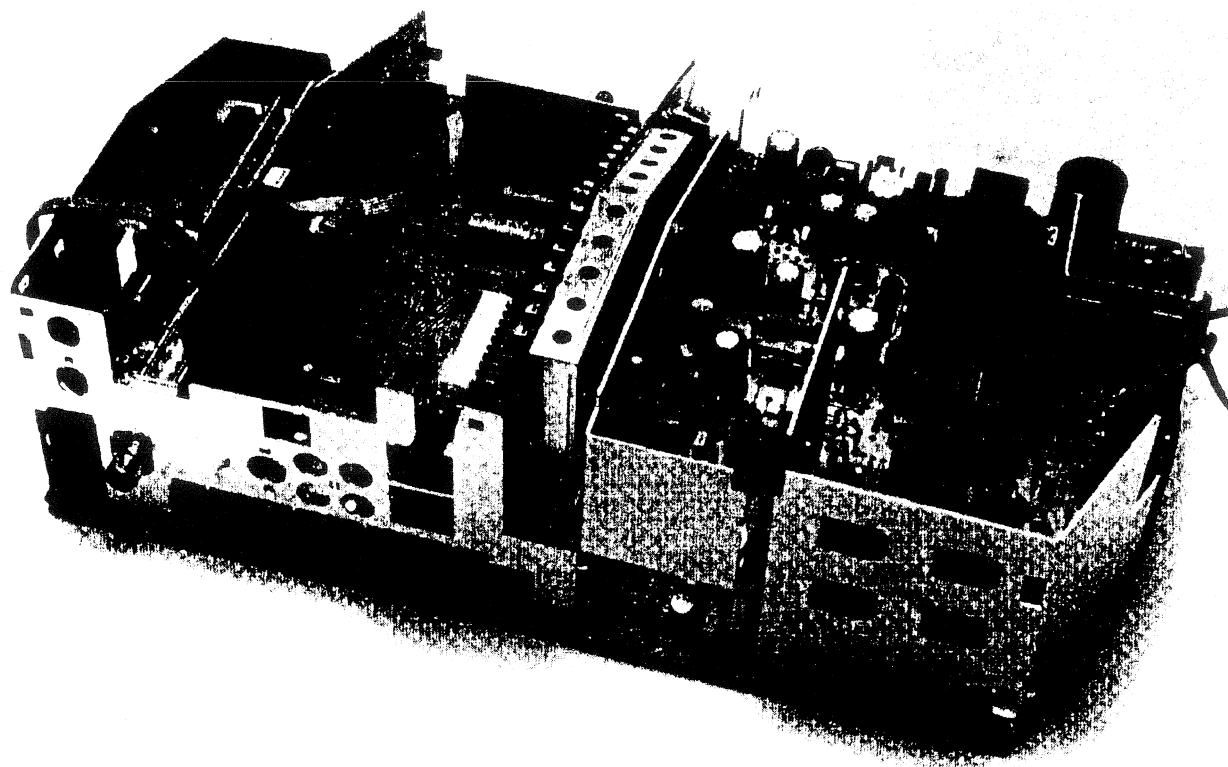
Ⓓ Service-Manual

Ⓔ Serviceanvisning

Ⓕ Manuel de service

Ⓖ Manuale di servizio

NOKIA 8295
8297



NOKIA 
CONNECTING PEOPLE

661172 22

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SAFETY REGULATIONS:
Service and repair work must be performed only in accordance with existing safety regulations!
Safety components in accordance with existing regulations. These components must be replaced only with original parts.

X-RAY REGULATIONS:
The picture tube type and the maximum permissible high-voltage ensure that the X-ray intensity of the receiver remains far below the permissible value. The high-voltage must not exceed 30 kV (To 32*/33 kV (Vid 32*)
The high voltage is within the permissible limits when the operating voltage of the horizontal deflection stage equals 155 V (To 32*) or 135 V (Vid 32*) at the minimum beam current. In servicing, check and adjust this voltage to the nominal value with Po1.

SICHERHEITSBESTIMMUNGEN:
Bei Reparaturen gültige Sicherheitsvorschriften beachten!
Sicherheitsbauteile im Sinn der Sicherheitsbestimmung. Diese Teile dürfen nur durch Originalteile ersetzt werden.

RÖNTGENVERORDNUNG:
Die in der Röntgenverordnung festgelegte Ortsdosisleistung ist bei diesem Gerät durch die Bildröhrentype und die maximal zulässige Hochspannung gewährleistet. Die Hochspannung darf maximal 30 kV (To 32*/33 kV (Vid 32*) betragen. Die Hochspannung liegt im zulässigen Bereich, wenn die Betriebsspannung der Horizontal-Ablenkungsstufe bei minimalen Strahlstrom 155 V (To 32*) oder 135 V (Vid 32*) beträgt. Bei Reparaturen ist die Spannung zu überprüfen und gegebenenfalls mit Po1 auf Sollwert einzustellen.

SÄKERHETS DIREKTIV:
Gällande säkerhetsdirektiv måste beaktas vid service-ingrepp!
Skydds-komponenter. Dessa komponenter får endast ersättas med original reservdelar.

RÖNTGENSTRÅLNING:
Med hjälp av bildrörstyp och begränsning av maximum högsppänning kan mottagarens röntgenstrålning säkras under tillåten nivå. Högsppänningen får inte överskrida 30 kV. Högsppänningen är inom tillåten nivå när horisontalslutstegets drivspänning är 155 V (To 32*) eller 135 V (Vid 32*) med minimum strålström. Kontrollera och ställ in spänningen till dess nominella värde med Po1.

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DOLBY SURROUND PRO LOGIC
Manufactured under license from Dolby Laboratories Licensing Corporation. Dolby, Pro Logic, and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

CONSIGNES DE SECURITE:
Veuillez observer les prescriptions de sécurité en vigueur lors de dépannage!
Composant de sécurité conformément aux réglementations de sécurité. Ces composants doivent être uniquement remplacés par des pièces d'origines.

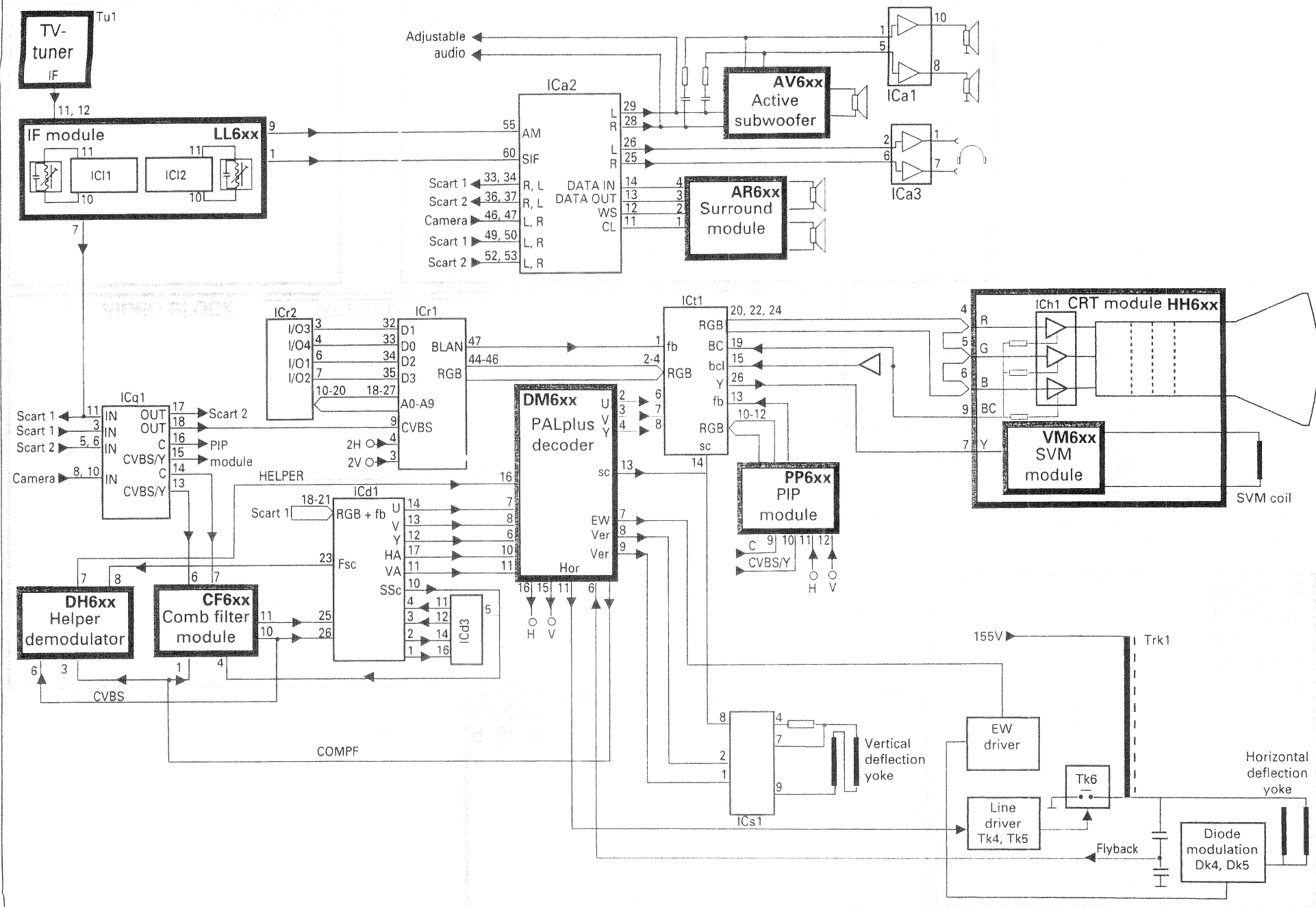
REGLEMENTATIONS RELATIVES AUX RAYONS X:
Le type de tube image et le maximum de haute tension assure que l'intensité des rayons X émis, pour ce récepteur, sont bien en dessous des valeurs admissibles. La haute tension ne doit pas dépasser 30 kV (To 32*/33 kV (Vid 32*)
La haute tension de l'étage de déviation horizontale est égale à 155V (To 32*) d'un 135 V (Vid 32*) pour un minimum de courant de faisceau. Vérifier et régler, en mode service, cette tension à l'aide de Po1.

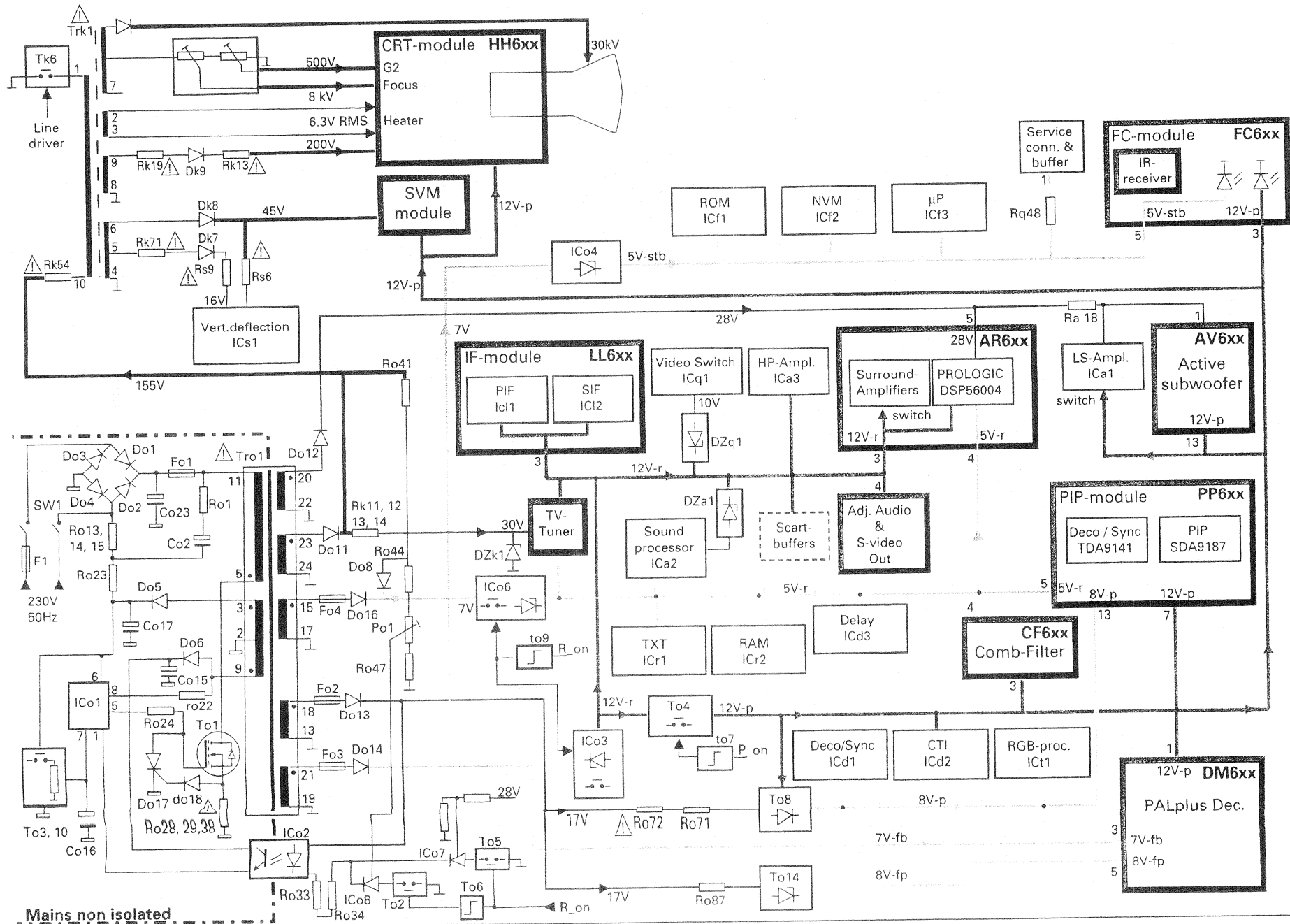
REGOLAMENTI DI SICUREZZA:
Osservare le norme di sicurezza vigenti in caso di riparazioni!
Componenti di sicurezza ai sensi del regolamento di sicurezza. Queste componenti devono venir sostituite unicamente con parti originali.

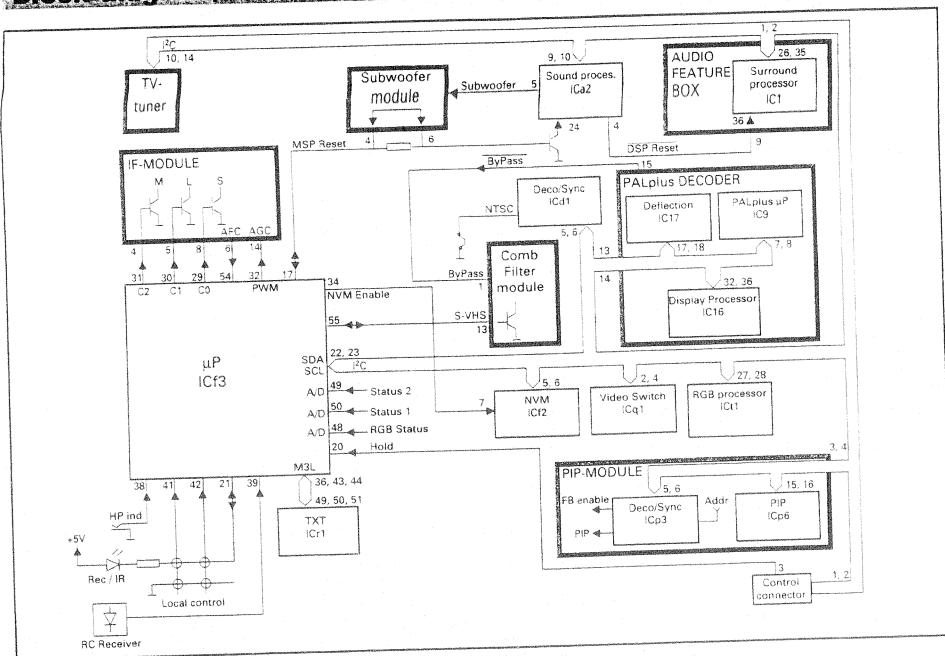
REGOLAMENTAZIONE DEI RAGGI-X:
Il tipo di cinescopio impiegato e l'utilizzo dalla massima tensione anodica permessa, assicurano che l'intensità dei raggi-X emessi dal televisore siano abbondantemente al di sotto dei valori permessi. La tensione anodica non deve eccedere i 30 kV (To 32*/33 kV (Vid 32*). La tensione anodica è all'interno dei limiti stabiliti quando la tensione di lavoro dello stadio di deflessione orizzontale è di 155 V (To 32*) ossia 135 V (Vid 32*). Tali misure devono essere effettuate con la corrente di raggio al minimo. In caso di intervento, controllare tale tensione ed eventualmente regolarla con il trimmer Po1.

Technical data	Technische daten	Tekniska data
Mains power	Netzanschluß	Nätnätslutning
Power consumption: Stand by Average (Depends on accessories) Picture tube	Leistungsaufnahme: Im Mittel (Von der Ausstattung abhängig) Bildröhre	Effektförbrukning: Stand by i medeltal (Beroende på utrustning) Bildrör
Programme memory locations	Vorwählbare Kanäle	Antal programplatser
AV memory locations	AV-Speicherplätze	Antal AV-programplatser
Sound output Internal subwoofer Dolby Surround: Surround channel Centre channel	Ton-Endstufe Inner subwoofer Dolby Surround: Surround-Kanäle Mittel-Kanäle	Ljudeffekt Inbyggd subwoofer Dolby Surround: Surround-Kanal Center-Kanal
Chassis: Mains isolated Digital controlled	Ausstattung: Netzisoliert Digitalkontrolliert	Chassi: Nätisolerad Digitalstyrt
Connections On the front panel 3 x chinch	Anschlüsse Auf der Frontplatte 3 x chinch	Anslutningar På framsidan 3 x chinch
Headphones	Kopfhöreranschluß	Anslutning för hörlurar
On the rear panel SCART 1	Auf der Rückwand SCART 1	På baksidan SCART 1
Extra loudspeakers	Zusatzlautsprecher	Extra högtalaranslutning
Aerial	Antenneneingang	Antennanslutning
Specifications subject to change	Änderungen vorbehalten	Rätt till ändringar förbehålles

Dati Technici	Donnees Techniques	Donnees Techniques
Tensio do rete	Branchement secteur	230 V (-10% ... +6%), 50 Hz
Consumo di energi: Stand by In media (Dipendere da accessori) Tubo a raggi catodici	Puissance de consommation: Stand by En moyenne (Dépendant des accessoires) Tube image	Max. 10 W 120 W 28" (16-9) 32" (16-9)
Locazioni di memoria	Présélections	99
Locazioni di memoria AV	Memoires AV	4
Potenza audio in uscita Subwoofer interno Dolby Surround: Surround canaux Central canaux	Puissance de sortie son Subwoofer interne Dolby Surround: Surround canaux Central canaux	2 x 12 W (8 Ω) 14 W (16 Ω) 2 x 6 W (8 Ω) 6 W
Chassis: Rete isolata Digitalmente controllata	Chassis: Isolé Avec contrôle numérique	
Collegamenti Frontali 3 x chinch	Cablage Piles avants 3 x chinch	Audio in 0.5 V / 10 kΩ Video in 1 V / 75 Ω V / C in (S-VHS) 3.5 mm / 8 ... 600 Ω
Cuffie	Casque	
Posteriori SCART 1	Piles arrières SCART 1	Audio out 0.5 V / 10 kΩ Audio out 0.5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω V / C in (S-VHS)
SCART 2	SCART 2	Audio out 0.5 V / 10 kΩ Audio in 0.5 V / 10 kΩ Video out 1 V / 75 Ω Video in 1 V / 75 Ω RGB in 0.7 V / 75 Ω
Altoparlanti addizionale	Les haut-parleurs extérieur	2 x DIN
Ingresso per l'antenna	Antenne	75 Ω
Ci riserviamo il diritto di apportare modifiche ulteriori	Sous réserve de modifications!	







Service mode selection:

Switch on the receiver by pressing the mains switch and within 5 s. press the remote control buttons MENU, TV and "i" successively.

Wahl des service-modus:

Einschalten Sie das Gerät mit dem Netzschalter und innerhalb 5 Sekunden Drücken Sie nacheinander die Fernbedienungstasten MENU, TV und "i".

Val av service-läge:

Slå på mottagaren med huvudströmbrytaren och inom 5 s. tryck på fjärrkontrollens MENU, TV och "i" knappar succesivt.

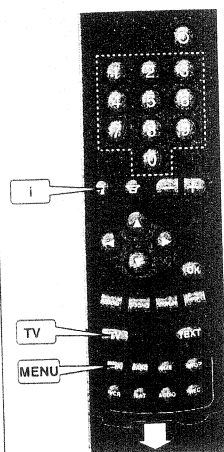
Selection du mode service:

Mettre le récepteur en marche à l'aide de l'interrupteur principal et dans les 5 secondes appuyez successivement sur les touches MENU, TV et "i" de la télécommande.

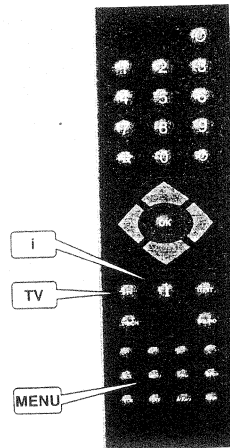
Selezione del modo servizio:

Accendere il ricevitore tramite l'interruttore generale e premendo in sequenza i tasti del telecomando MENU, TV e "i" entro 5 secondi.

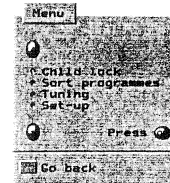
A menu



B menu



A menu



Language selection

1. Press the MENU button (under the lid).
2. Select the "Set-up" with the cursor buttons (up-/downwards) and press the OK button.
3. Select the "Language" and press the OK button.
4. Select the desired language and press the OK button.
5. Press the TV button to exit.

Manual tuning

1. Select programme number you want to tune.
2. Press the MENU button.
3. Select "Manual tuning" and press the OK button.
4. Press the red button (SEARCH).
5. Press the OK button to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the MENU button.
2. Select "Set-up" and press the OK button.
3. Select "Retune TV" and press the OK button.
4. To retune the channels, press the OK button.
5. Press the TV button to exit.

B menu



Language selection

1. Press the PRG button.
2. Select the Install by pressing the blue button.
3. Select the Language by pressing the red button.
4. Select the desired language with the cursor buttons and press the OK button.
5. Press the TV button to exit.

Manual tuning

1. Press the PRG button.
2. Press the red button (Tune).
3. Press the red button (Search).
4. Select the prog. number on which the channel is to be stored.
5. Press the blue button (Store) to store.
6. Press the TV button to exit.

APSi (Automatic Programming System)

1. Press the PRG button.
2. Press the blue button (Install).
3. Press the yellow button (Reprog).
4. Press the red button (APSi).
5. Press the yellow button (Reprog).
6. Press the blue button (OK) to exit.

NVRAM (ICf2)

Initialization of NVRAM

The NVRAM must be initialized and configured, if the NVRAM is replaced or it has totally lost its data. The next procedure is assuming that the tv does not start at all due to wrong data in NVRAM.

1. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively.
Note! The receiver is in the service mode although it looks like the receiver is in stand-by mode!
2. Press the RED-button to pre-configure the set. Green led will flash once to indicate this.
- 3a At the same time the controller will check NVRAM and initializes it automatically if it was "empty". Initializing will take about 15s. When it is complet, the green led will light up. Continue to step 4.
- 3b The automatic initializing did not happen, if the green led does not light up steady. In some cases the led might also light up immediately after configuration without any initializing, depending on NVRAM contents. In this case it might be enough to store the new configuration by pressing "OK". Continue to step 4.
- 3c If the automatic initializing did not happen, you can start it manually by entering the key code: BLUE (wait approx. 2s), 2, 5, 4 (wait approx. 2s) and OK. Initializing will take about 15 s.
4. Switch off the receiver by pressing the mains switch.
5. Set the receiver to the service mode by switching on the receiver with the main switch and within 5 s. pressing the buttons MENU, TV and "i" successively. If the receiver remains in stand-by mode, press the TV button twice and then press the "i" button.
6. Configure the receiver by pressing the RED button. The configuration menu will show up.
7. Press the OK button.
8. Press the TV-button and tune in one or more tv channels.
9. Return to service mode by pressing "i" button
10. After that make all of the service adjustments (see section "Service adjustments via IIC bus").
11. Switch off the receiver by pressing the mains switch.

Service adjustments

Service mode selection

- Set the receiver to the service mode by switching on the set with the main switch and within 5 seconds pressing the remote control buttons MENU, TV and "I" successively.

Note! If the receiver remains in stand by mode after selecting the service mode, switch on the receiver by pressing the TV button twice and select the service mode by pressing the "I" button.



In the service mode an adjustment menu (including the adjustment number and name, initializing (left) and adjustment (right)) values are shown on the screen.

- Return from the service mode by switching off the receiver with the mains switch.

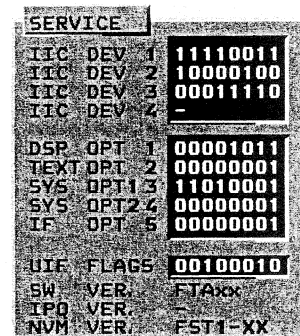
Configuration and fault diagnosis

The set must be configured after adding or removing some options. By pressing the red button in the service mode, the processor checks all possible addresses of bus driven circuits and shows the settings on the screen.

This feature can also be used in fault finding; if an option bit is not "1" when it should be or if it is not possible to change it to "1" by using the number buttons, the IC is either not present or it is faulty.

Changing the option bytes

- When in service mode, select the configuration mode by pressing the red button.



Description

SW VER. = μ P software version.
NVM VER. = NVM software version.

- Select IIC Device byte 1 + 4 or Option byte 1 + 5 with the cursor button (up-/downwards). Selected byte is shown highlighted.
- Set the bits with the number buttons (0 ... 7).
- Store the settings by pressing the OK button.
- Return to the service mode by pressing the red button again.

Option byte description

Bit	Description	Setting	'1'	'0'
7 6 5 4 3 2 1 0 IIC DEV 1 01111011				
0	TV tuner		Yes	No
1	Decoder TDA9141		Yes	No
5	RGB processor TDA4780		Yes	No
6	Video switch TDA6417		Yes	No
7	PIP controller SDA9188		Yes	No
7 6 5 4 3 2 1 0 IIC DEV 2 10000100				
0	PIP tuner		Yes	No
2	Megatext SDA5273		Yes	No
7	MSP3400 / 3410		Yes	No
7 6 5 4 3 2 1 0 IIC DEV 3 00010010				
0	DPL (AR600)		Yes	No
1	Subwoofer		Yes	No
2	SDA 9280 (PAL+)		Yes	No
3	PAL+/WSS 87C752		Yes	No
4	Comb filter (SVHS line low)		Yes	No
6	DPL (AR602)		Yes	No
7 6 5 4 3 2 1 0 DSP OPT 1 00001000				
0-2	Loudspeaker configuration (set in user mode)			
4	Bass splitting (normally yes, manual)		Yes	No
6-7	TV-speaker pre-equalisation (manual)		Yes	No
7 6 5 4 3 2 1 0 TXT OPT 2 00000001				
0	TXT with external RAM		Yes	No
2	Flof text enabled (manual)		Yes	No
4	Text sync mode (manual)		Yes	No
5	Text subpage rolling (manual)		Yes	No
7 6 5 4 3 2 1 0 SYS OPT 3 11010001				
0	Camera connector installed (manual)		Yes	No
3	RGB E1		Yes	No
4	NTSC 3.58 MHz		Yes	No
5	ACI enabled (manual)		Yes	No
6	NICAM enabled (manual)		Yes	No
7	Loudness enabled (manual)		Yes	No
7 6 5 4 3 2 1 0 SYS OPT 4 00000000				
0	Start TV with mains		No	Yes
6	Start TV to demo mode (manual)		Yes	No
7	Hotel TV functions enabled (manual)		Yes	No
7 6 5 4 3 2 1 0 IF OPT 5 00000001				
0	B/G system		Yes	No
1	I system		Yes	No
2	D/K system		Yes	No
3	L/L' system		Yes	No
5	Baseband		Yes	No
7	Only UHF tuner (manual)		Yes	No
7 6 5 4 3 2 1 0 UIF FLAGS 01100010				
4	OEM option (manual)		Yes	No

Service adjustments via IIC-bus

RC buttons in service mode

When the receiver is in service mode you can select the normal TV mode by pressing the TV button and return to the service mode by pressing the "I" button.

Number and cursor buttons are used for service adjustment. The yellow button hides temporarily the service menu. The OK button stores the settings.

Note! Before other adjustments U1 voltage must be adjusted.

Adjustment for different picture format

First make all adjustments with normal 4:3 picture format. The TV uses these adjustment values for all picture formats if no other adjustments were made. In each adjustment it is mentioned if the adjustment must be done separately for different picture format, repeat only those adjustments.

Note! The picture geometry adjustments must be done with 16:9 picture format.

Making the service adjustment

- Give a two numbered code which determines the adjustment (e.g. 05 = horizontal phase, see the following tables) with the number buttons.

Note! The adjustments can also be selected with the cursor button (up-/downwards).



- Adjust with the cursor button (left/right).



- Store the new value by pressing the OK button.

Note!

- To avoid incomplete adjustments store each adjustment in the memory immediately after adjusting.
- If the adjustment has to be made separately for different picture format, select the normal user mode by pressing the TV button and change the picture format with the ZOOM button. Return to service mode by pressing the "I" button.

Vertical picture adjustments

Adjustment	Code	OSD name	Init. value	Note!
Vertical amplitude	00	V-ampl.	43	Adjust the picture height to correct ratio. Adjust the color edge to the center of the picture. Adjust the lower part of the picture to correct ratio. Separate adjustment for 4:3 format!
Vertical off-centre shift	01	V-shift	3	
Vertical start scan	02	V-start	6	
Vertical S-correction	03	S-corr.	27	
Vertical slope 4:3 zoom (coarse)	12	Zoom-H	71	Select 4:3 zoom picture format and adjust the picture to correct ratio. Separate adjustment for 60 Hz NTSC transmission! Before adjustment select the 4:3 zoom picture format!
Vertical slope 4:3 zoom (fine)	13	Zoom-L	0	
Center value, 4:3 zoom shift	14	Shift	28	

Horizontal picture adjustments

Adjustment	Code	OSD name	Init. value	Note!
EW width	04	Width	35	Separate adjustments for normal 4:3, H-phase zoom, 4:3 zoom and full screen picture format (either 4:3 zoom1, 4:3 zoom2, 16:9 or PALplus format; adjust with only one of these picture formats!) In addition make same adjustments by using RGB signal!
Horizontal phase	05	H-shift	27	
H-phase RGB				Set brightness and contrast to 90% and compensate the change in picture size.
H-phase RGB zoom				
EW parabola	06	Parab.	13	
EW corner	07	Corner	0	
EW trapezium	08	Trapez	2	
EHT compenzation	09	EHT	36	

Adjustment	Code	OSD name	Init. value	Note!
Red gain	17	R gain	41	This procedure is necessary e.g. when the picture tube, CRT-module etc. has been replaced! Apply a test picture and adjust the R, G and B references. Then adjust the R, G and B gains.
Green gain	18	G gain	32	
Blue gain	19	B gain	32	
Red reference	20	R ref.	52	
Green reference	21	G ref.	21	
Blue reference	22	B ref.	16	
Clamp shift	11	Clamp	0	Normally no need to adjust.
Peak white limit	23	PWL	63	Normally no need to adjust.
Gamma correction	24	GAMMA	32	Normally no need to adjust.
Tuner AGC	25	TV AGC	170	Apply a 1 mV (60 dBµV) test signal. Adjust the picture just without noise.
CTI length	26	CTI LEN	15	Normally no need to adjust.
CTI sensitivity	27	CTI SENS	7	Normally no need to adjust.
Chrominance / luminance delay	28	Y 138	7	Normally no need to adjust. Separate adjustment for RGB signal and PALplus picture!
Black curtain, right edge	29	BCK POS	201	Normally no need to adjust.
Black curtain, left edge	30	BCK WID	90	Normally no need to adjust.

Service adjustments

O Power supply block

Supply voltage (U1) and protection circuit

- Set brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Do 11.
- Adjust with Po1 the DC voltage (U1), see page 25.
- Check the over-current protection after making any service operations in the primary circuit of the power supply. Set the receiver to the stand-by mode. Short circuit the cathode of Do 13 to the ground and keep the short circuit connected. When the over-current protection works correctly, the power supply stops. Remove the short circuit and switch on the receiver by pressing the mains button.

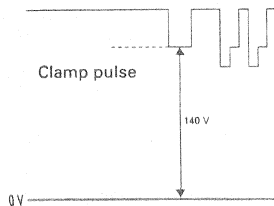
K Horizontal deflection block

Focusing

Set brightness to normal level and contrast to high level. Use cross hatch pattern and adjust the picture for optimum resolution.

(Screen grid voltage) Ug2 voltage

- Set contrast to minimum, brightness and colour saturation to normal level.
- At the end of the vertical blanking, there is a black current measurement pulse (clamp pulse) at pins 9, 12 and 15 of IC1. Use an oscilloscope and find the output stage with the highest cut-off (ie. the highest voltage during the black current measurement pulse).
- Adjust the voltage of the clamp pulse to +140 V with Ug2.



Note! Adjust the voltage with clamp pulse.

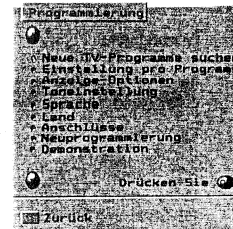
LL Picture and sound IF-module

Video demodulator

- Apply a test signal (1 mV = 60 dBµV).
 - Connect an universal voltmeter to the module connector X1 pin 6.
 - Adjust with LL6 the DC voltage to the point where it changes from 0 to 5 V.
- #### Sound demodulator
- Apply a CCIR B/G standard (FM modulated sound) test signal.
 - Connect a universal voltmeter to ICL1 pin 13.
 - Adjust with LL1 the DC voltage for +2.7 V.

Bedienungsanleitung

A Menü



Sprach Auswahl

- Drücken Sie die MENU Taste.
- Wählen Sie die Option "Programmierung" durch Drücken der Cursor-Taste (auf/abwärts) und drücken Sie die OK Taste
- Wählen Sie die Option "Sprache" und drücken Sie die OK Taste.
- Wählen Sie die gewünschte Sprache und drücken Sie die OK Taste.
- Drücken Sie die TV Taste.

Manuelle Abstimmung

- Wählen Sie die Programm-Nummer, die Sie abstimmen wollen.
- Drücken Sie die MENU Taste.
- Wählen Sie die Option "Programmierung" und drücken Sie die OK Taste.
- Starten Sie den Kanalsuchlauf durch Drücken der roten Taste.
- Die Speicherung erfolgt durch Drücken der OK Taste.
- Durch Drücken der TV Taste kehren Sie zum normalen Fernsehempfang zurück.

APSi

- Drücken Sie die Taste MENU.
- Wählen Sie die Option "Programmierung" und drücken Sie die OK Taste.
- Wählen Sie die Option "Neuprogrammierung" und drücken Sie die OK Taste.
- Starten Sie den Kanalsuchlauf durch Drücken der OK Taste.
- Durch Drücken der TV Taste kehren Sie zum normalen Fernsehempfang zurück.

B Menü



Sprach Auswahl

- Drücken Sie die Taste PRG.
- Wählen Sie Install. durch Drücken der blauen Taste.
- Wählen Sie Sprache durch Drücken der roten Taste.
- Wählen Sie die gewünschte Sprache mit der Cursor-Taste (auf/abwärts) und drücken Sie die Taste OK.
- Drücken Sie die Taste TV.

Manuelle Abstimmung

- Drücken Sie die Taste PRG.
- Drücken Sie die rote Taste (Abstimm.).
- Drücken Sie die rote Taste (Suchen).
- Wählen Sie die Pr. Nummer unter der neue Kanal abgespeichert werden soll.
- Drücken Sie die blaue Taste (Speicher).
- Durch Drücken der Taste TV kehren Sie zum normalen Fernsehempfang zurück.

APSi

- Drücken Sie die Taste PRG.
- Drücken Sie die blaue Taste (Install.).
- Drücken Sie die gelbe Taste (Neueinst.).
- Drücken Sie die rote Taste (APSi).
- Drücken Sie die grüne Taste (Neueinst.).
- Drücken Sie die blaue Taste (OK) zum Beenden.

NVRAM (ICf2)

Initialisierung des NVRAM

Der NVRAM muß nach Austausch oder bei Datenverlust initialisiert und konfiguriert werden. Die nachfolgende Beschreibung setzt voraus, daß der Fernseher auf Grund falscher Daten im NVRAM nicht eingeschaltet werden kann.

- Bringen Sie den Empfänger in den Service Modus, indem Sie nach dem Einschalten des Empfängers innerhalb von 5 Sekunden die Tasten MENU, TV und "I" nacheinander drücken. Hinweis! Der Empfänger befindet sich im ServiceModus auch wenn es so aussieht als ob er sich im Standby befindet.
- Drücken Sie die rote Taste, um das Gerät vorzukonfigurieren. Dies wird Ihnen durch eine grüne, blinkende Leuchtdiode signalisiert.
- Gleichzeitig überprüft der Controller den NVRAM und initialisiert ihn automatisch, wenn er leer ist. Die Initialisierung dauert ungefähr 15 Sekunden. Nach erfolgreicher Initialisierung leuchtet die grüne Leuchtdiode ständig. Fahren Sie fort bei Schritt 4.
- Die automatische Initialisierung erfolgte nicht: Die grüne Leuchtdiode leuchtet nicht ständig. Es kann auch vorkommen, daß die Leuchtdiode sofort nach der Konfiguration aufleuchtet, ohne daß der NVRAM initialisiert wurde. Dies hängt ab vom Inhalt des NVRAMs. In diesem Fall könnte es ausreichen die neue Konfiguration mit „OK“ zu speichern. Fahren Sie fort bei Schritt 4.
- Erfolgte keine automatische Initialisierung, so können Sie manuell starten. Drücken Sie hierzu zuerst die blaue Taste, warten Sie ca. 2 Sekunden, drücken Sie dann die Zifferntasten 2, 5 und 4, warten Sie erneut ca. 2 Sekunden und drücken Sie „OK“. Die Initialisierung dauert ungefähr 15 Sekunden.
- Schalten Sie das Gerät mit dem Netzschalter aus.
- Bringen Sie den Empfänger in den Service Modus, indem Sie nach dem Einschalten des Empfängers innerhalb von 5 Sekunden die Tasten MENU, TV und "I" nacheinander drücken. Bleibt der Empfänger im Standby, drücken Sie zweimal die TV-Taste und anschließend die i-Taste.
- Konfigurieren Sie das Gerät durch Drücken der roten Taste. Das Konfigurationsmenü erscheint.
- Drücken Sie die OK-Taste.
- Drücken Sie die TV-Taste und stellen Sie ein oder mehrere Fernsehkanäle ein.
- Kehren Sie durch drücken der i-Taste zum Service Modus zurück.
- Führen Sie danach die Service-Einstellungen durch (siehe Kapitel "Service-einstellungen über ILC-bus").
- Schalten Sie das Gerät mit dem Netzschalter aus.

Service-Einstellungen

Wahl des Service-modus

- Den Empfänger setzen Sie in den Service-Modus, indem Sie das Gerät mit dem Netzschalter einschalten und innerhalb von 5 Sekunden die Fernbedienungstasten MENU, TV und "I" nacheinander drücken.

Hinweis! Bleibt der Empfänger nach Wahl des Service-Modus in Betriebsbereitschaft, ist das Gerät einzuschalten, indem Sie die Taste TV zweimal drücken und den Service-Modus durch Drücken der Taste I bestätigen.



Im Service-Modus wird auf dem Bildschirm ein Einstellungsmenü mit den Werten von Initialisierung (links) und Einstellung (rechts) (einschließlich der Nummer und der Bezeichnung der Einstellung) angezeigt.

- Den Service-Modus verlassen Sie, indem Sie den Empfänger mittels des Netzschalters ausschalten.

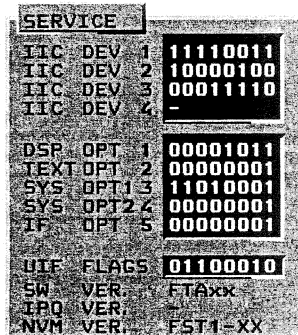
Konfiguration und fehlerdiagnose

Das Gerät muß nach Einbau oder Ausbau einiger Features konfiguriert werden. Indem Sie die rote Taste im Service-Modus drücken, prüft der Prozessor alle möglichen Adressen der busgesteuerten Schaltkreise und zeigt die Einstellungen auf dem Bildschirm an.

Diese Funktion können Sie auch bei der Fehlereingrenzung benutzen. Ist ein Optionsbit, das auf "1" gesetzt sein sollte, nicht gleich "1", oder ist es nicht möglich, es mit den Zifferntasten auf "1" zu setzen, dann ist der integrierte Schaltkreis entweder nicht vorhanden oder fehlerhaft.

Änderung der Options-Bytes

- Wählen Sie im Service-Modus den Konfigurationsmodus, indem Sie die rote Taste drücken.



Beschreibung

SW VER. = µP Software-Version.
NVM VER. = NVM Software-Version.

- Wählen Sie Byte 1 - 4 des IIC-Bausteins oder das Options-Byte 1 - 6 mit den Cursortasten (aufwärts/abwärts). Das gewählte Byte wird hervorgehoben.
- Setzen Sie die Bits mit den Zifferntasten (0 ... 7).
- Speichern Sie die Einstellungen durch Drücken der OK Taste ab.
- Rufen Sie den Service-Modus durch erneutes Drücken der roten Taste auf.

Beschreibungen der option-bytes

Bit	Beschreibung	Einstellung	'1'	'0'
IIC DEV 1 01111011				
0	TV-Tuner		Ja	Nein
1	Decoder TDA9141		Ja	Nein
5	RGB-Prozessor TDA4780		Ja	Nein
6	Video-Schalter TDA6417		Ja	Nein
7	PIP-Steuerung SDA9188		Ja	Nein
IIC DEV 2 10000100				
0	PIP-Tuner		Ja	Nein
2	Megatext SDA5273		Ja	Nein
7	MSP3400 / 3410		Ja	Nein
IIC DEV 3 00010010				
0	DPL (AR600)		Ja	Nein
1	Subwoofer		Ja	Nein
2	SDA 9280 (PAL+)		Ja	Nein
3	PAL+MWS 87C752		Ja	Nein
4	Kamm-Filter (SVHS-Eingang aus)		Ja	Nein
6	DPL (AR602)		Ja	Nein
DSP OPT 1 00001000				
0-2	Lautsprecher-Konfiguration (eingestellt im Benutzer-Modus)			
4	Bass-Splitting (manual)		Ja	Nein
6-7	DSP-Surround für Lautsprecher-Vorentzerrung (manual)		Ja	Nein
TXT OPT 2 00000001				
0	TXT mit externen RAM		Ja	Nein
2	FloT-TXT aktiviert (manual)		Ja	Nein
4	Text sync (manual)		Ja	Nein
5	Durchlaufen von Textunterseiten (manual)		Ja	Nein
SYS OPT 3 11010001				
0	Kamera-Eingang installiert (manual)		Ja	Nein
3	RGB E1		Ja	Nein
4	NTSC 3.58 MHz		Ja	Nein
6	ACI aktiviert (manual)		Ja	Nein
5	NICAM aktiviert (manual)		Ja	Nein
7	Loudness aktiviert (manual)		Ja	Nein
SYS OPT 4 00000000				
0	Gerät mit dem Netzschalter einschalten		Nein	Ja
6	Aktiviert Demo-Modus beim Einschalten		Ja	Nein
7	Aktiviert Hotel-TV-Modus beim Einschalten		Ja	Nein
IF OPT 5 00000001				
0	B/G-System		Ja	Nein
1	I-System		Ja	Nein
2	D/K-System		Ja	Nein
3	L/L-System		Ja	Nein
5	Baseband		Ja	Nein
7	Nur UHF-Tuner		Ja	Nein
UIF FLAGS 01100010				
4	OEM-Option		Ja	Nein

Service-Einstellungen über IIC-Bus

Fernbedienungstasten im Service-Modus

Befindet sich der Empfänger im Service-Modus, können Sie durch Drücken der TV Taste in den normalen TV-mode wechseln und zum Service-Modus durch Betätigen der "I" Taste zurückkehren.

Die Ziffern- und Cursortasten verwenden Sie für die Service-Einstellungen. Die gelbe Taste blendet das Service-Menü vorübergehend aus. Mit der OK Taste speichern Sie die Einstellungen ab.

Achtung! Vor dem Abgleich U1-Einstellung überprüfen.

Einstellung für verschiedene Bildformate

Nehmen Sie zunächst alle Einstellungen mit normalem 4:3 Bildformat vor. Das Fernsehgerät benutzt diese Einstellwerte für alle Bildformate, wenn keine anderen Einstellungen vorgenommen wurden. Bei jeder Einstellung ist angegeben, ob die Einstellung für ein anderes Bildschirmformat separat vorgenommen werden muß. Wiederholen Sie nur diese Einstellungen.

Hinweis! Die Geometrie-Einstellung muß mit 16:9 Bild werden.

Service-Einstellung vornehmen

- Geben Sie einen zweiffigen Code ein, mit dem die Einstellung festgelegt ist (z.B. 05 = horizontale Lage; siehe folgende Tabellen). Benutzen Sie dazu die Zifferntasten.

Hinweis! Die Einstellungen können Sie auch mit den Cursortasten (aufwärts/abwärts) wählen.

Vertikale bildeinstellungen

Einstellung	Code	OSD-Bezeichn.	Init. Wert	Hinweis!
Vertikale Amplitude	00	V-amp1.	43	Stellen Sie die Bildhöhe auf das richtige Verhältnis ein. Stellen Sie den Farbübergang auf die Bildmitte ein. Stellen Sie den unteren Bildteil auf das richtige Verhältnis ein.
Vertikale Lage	01	V-shift	3	
Vertikale Start-Zeile	02	V-start	6	
Vertikale Linearität	03	S-corr.	27	Separate Einstellungen für normales 4:3! Wählen Sie das 4:3 Zoom-Bildformat und stellen Sie das Bild auf das richtige Verhältnis ein.
Vertikale Steilheit 4:3 Zoom (grob)	12	Zoom-H	71	
Vertikale Steilheit 4:3 Zoom (fein)	13	Zoom-L	0	Separate Einstellung für 60 Hz NTSC Sendung! Vor der Einstellung wählen Sie 4:3 Zoom-Bildformat!
Zentrierwert, 4:3 Zoom-Verschiebung	14	Shift	28	

Horizontale bildeinstellungen

Einstellung	Code	OSD-Bezeichn.	Init. Wert	Hinweis!
Bildbreite	04	Width	35	Separate Einstellungen für normales 4:3-, Zoom H-Lage, 4:3 zoom und Vollbildschirm (4:3 Zoom1-, 4:3 Zoom2-, 16:9- und PALplus-Bildformat; Nur mit einem von diesen Formaten einstellen)! Zusätzlich dieselben Einstellungen mit dem RGB-Signal vornehmen.
Horizontale Lage	05	H-shift	27	
RGB H-Lage Zoom RGB H-Lage				
OW-Kissen	06	Parab.	13	Stellen Sie die Helligkeit und den Kontrast auf 90 % ein und kompensieren Sie die Änderung der Bildgröße.
OW-Ecken Korrektur	07	Corner	0	
OW-Trapez	08	Trapez	2	
EHT-Kompensation	09	EHT	36	



- Nehmen Sie die Einstellungen mit den Cursortasten (links/rechts) vor.



- Speichern Sie den neuen Wert durch Betätigung der OK Taste ab.

Hinweis!

- Zur Vermeidung unvollständiger Einstellungen speichern Sie jede Einstellung sofort, nachdem diese vorgenommen wurde, ab.
- Sind die Einstellungen für unterschiedliche Bildformate separat vorzunehmen, wählen Sie den normalen TV-Modus, indem Sie die TV Taste drücken. Ändern Sie dann das Bildformat mit der Zoom-Taste. Nach Betätigung der "I" Taste gelangen Sie wieder in den Service-Modus.

Einstellung	Code	OSD- Bezeichn.	Init. Wert	Hinweis!
Rotverstärkung	17	R gain	41	Dieser Abgleich wird erforderlich wenn z.B. die Bildröhre, die Bildröhrenplatte etc. gewechselt wurden! Testbild einspeisen und die R-, G- und B- Referenzwert einstellen. Danach die R-, G- und B- Verstärkung einstellen.
Grünverstärkung	18	G gain	32	
Blauverstärkung	19	B gain	32	
Rot-Referenz	20	R ref.	52	
Grün-Referenz	21	G ref.	21	
Blau-Referenz	22	B ref.	16	
Clamp-Shift	11	Clamp	0	Normalerweise keine Einstellung erforderlich. Normalerweise keine Einstellung erforderlich. Normalerweise keine Einstellung erforderlich. Ein 1 mV (60 dBµV) Testsignal aufschalten. Bild ohne Rauschen einstellen.
Oberer Grenzwert weiß	23	PWL	63	
Gamma-Korrektur	24	GAMMA	32	
Tuner-AGC	25	TV AGC	170	
CTI Länge	26	CTI LEN	15	Normalerweise keine Einstellung erforderlich. Normalerweise keine Einstellung erforderlich. Normalerweise keine Einstellung erforderlich. Separate Einstellung für PALplus Bild und RGB!
CTI Sensibilität	27	CTI SENS	7	
Chrominanz-/Luminanzverzögerung	28	Y138	7	
Schwarze Seitenbereiche, rechts	29	BCK POS	201	Normalerweise keine Einstellung erforderlich. Normalerweise keine Einstellung erforderlich.
Schwarze Seitenbereiche, links	30	BCK WID	90	

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Serviceinställningar

Val av Service-Läge

1. Ställ mottagaren i service-läge genom att koppla på den med strömbrytaren och inom 5 sekunder trycka på fjärrkontrollens MENU-, TV- och i-knappar.

Obs! Om mottagaren förblir i beredskapsläge, efter det att man har valt service-läge, koppla på mottagaren genom att trycka två gånger på TV-knappen och välj service-läge med "i"-knappen.



I service-läge visas service-menyn (som inkluderar justeringens nummer och namn, initialiserings- (vänster) och justeringsvärde (höger)) på bildskärmen.

2. Återställ TV:n till normalt användarläge genom att stänga av mottagaren med strömbrytaren.

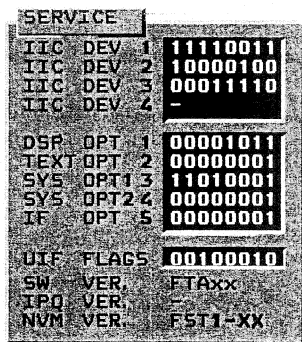
Konfiguration och felsökning

Apparaten måste alltid konfigureras efter att man gör ingrepp som ändrar dess funktion. När man trycker på den röda färgknappen, när apparaten är i service-läge, kontrollerar processorn alla adresser för busstyrda kretsar och visar inställningen på bildskärmen.

Denna funktion kan även användas till felsökning. Om en option bit inte är rätt inställd eller om den inte kan ändras med sifferknapparna, är IC:n möjligtvis defekt eller så är den inte monterad.

Ändring av Option byte

1. Välj konfiguration genom att trycka på den röda färgknappen (när apparaten står i service-läge).



Förklaring

SW VER. = µP programversion.
NVM VER. = NVM programversion.

2. Välj IIC Device byte 1 - 4 eller Option byte 1 - 5 med markörknapparna (upp-/nedåt). Vald byte visas med avvikande färg.
3. Ställ in önskad optionbit med sifferknapparna (0...7).
4. Spara inställningen med OK-knappen.
5. Återgå till service-läge genom att trycka på den röda färgknappen igen.

Optionbyte förklaringar

Bit	Förklaring	Inställning	'1'	'0'
7 6 5 4 3 2 1 0				
IIC DEV 1 01111011				
0	TV-tuner		Ja	Nej
1	Dekoder TDA9141		Ja	Nej
5	RGB-prosessor TDA4780		Ja	Nej
6	Videoswitch TDA6417		Ja	Nej
7	PIP-kontroller SDA9188		Ja	Nej
IIC DEV 2 10000100				
0	PIP-tuner		Ja	Nej
2	Megatext SDA5273		Ja	Nej
7	MSP3400 / 3410		Ja	Nej
IIC DEV 3 00010010				
0	DSP (AR600)		Ja	Nej
1	Subwoofer		Ja	Nej
2	SDA 9280 (PAL+)		Ja	Nej
3	PAL+/WSS 87C752		Ja	Nej
4	Comb-filter (SVHS-linjen låg)		Ja	Nej
6	DSP (AR602)		Ja	Nej
DSP OPT 1 00001000				
0-2	Högtalarkonfiguration, ställs i användarläge			
4	Basdelning (normalt Ja)		Ja	Nej
6-7	Förkorrigerig för E- och B2-kabinett		Ja	Nej
TXT OPT 2 00000001				
0	TEXT med yttre RAM		Ja	Nej
2	Flof-text (manuellt)		Ja	Nej
4	Textsynk-läge (manuellt)		Ja	Nej
5	Rullning av flersidor (manuellt)		Ja	Nej
SYS OPT 3 11010001				
0	Kamera-anslutning (manuellt)		Ja	Nej
3	RGB E1		Ja	Nej
4	NTSC 3,58 MHz		Ja	Nej
5	ACI (manuellt)			
6	NICAM (manuellt)		Ja	Nej
7	Loudness (manuellt)		Ja	Nej
SYS OPT 4 00000000				
0	Påslagning med nätbrytaren		Nej	Ja
6	Påslagning till demoläge (manuellt)		Ja	Nej
7	Hotel-TV funktioner (manuellt)		Ja	Nej
IF OPT 5 00000001				
0	B/G-norm		Ja	Nej
1	I-norm		Ja	Nej
2	D/K-norm		Ja	Nej
3	L/L'-norm		Ja	Nej
5	Baseband		Ja	Nej
7	Endast UHF-tuner		Ja	Nej
UIF FLAGS 01100010				
4	OEM-option		Ja	Nej

Serviceinställningar via IIC-Bus

Fjärrkontrollknappar i Service-Läge

När mottagaren är i service-läge kan man välja normalt TV-läge med TV-knappen och återgå till service-läge med i-knappen. Siffer- och markör-knappar används till inställningar. Med den gula färgknappen kan man tillfälligt gömma service-menyn. Inställningarna sparas med OK-knappen.

Obs! Drivspänningen U1 måste ställas in till först, före man gör några övriga serviceinställningar.

Inställningar för olika bildformat

Gör först alla inställningar med normalt 4:3-bildformat. TV:n använder dessa inställningar för alla bildformat om inte andra inställningar görs. I varje justering nämns det skilt om justeringen måste göras med olika bildformat. Upprepa endast dessa justeringar.

Obs! Bildgeometrijusteringar skall göras med 16:9 bildformat.

Service-inställningar

1. Ge en tvåsiffrig kod, som hänvisar till justeringen i fråga, (t.ex. 05 = horisontal fas, se följande tabeller) med sifferknapparna.

Obs! Justeringen kan också väljas med markörknapparna (upp-/nedåt).

Vertikala bildinställningar

Justering	Kod	OSD-namn	Init. värde	Obs!
Vertikal amplitud	00	V-ampl.	43	Justera bildhöjden rätt.
Vertikal centrerig	01	V-shift	3	Justera färgkanten i mitten av bildskärmen.
Vertikal start	02	V-start	6	Justera den nedre delen av bilden rätt.
Vertikal S-korrigerig	03	S-corr.	27	Separat justering för 4:3 format.
Vertikal amplitud 4:3 zoom (grov)	12	Zoom-H	71	Välj 4:3 zoom bildformat och justera bilden till rätt förhållande.
Vertikal amplitud 4:3 zoom (fin)	13	Zoom-L	0	Separat justering för 60 Hz NTSC-sändning!
Centrerig, 4:3 zoom (V-wait)	14	Shift	28	Välj 4:3 zoom bildformat: före justering!

Horisontala bildinställningar

Justering	Kod	OSD-namn	Init. värde	Obs!
Bildbredd	04	Width	35	Skild justering för normal 4:3, 4:3 zoom och fullbild (4:3 zoom1, 4:3 zoom2, 16:9 och PALplus bildformat; justera endast med en av dessa format!) Gör även justeringen med RGB-signal.
Horisontal fas	05	H-shift	27	
Horisontal fas zoom				
Horisontal fas RGB				
Horisontal fas RGB zoom				
Öst-Väst-parabol	06	Parab.	13	Ställ ljus och kontrast till 90% och kompensera bildstorlek variationer.
Öst-Väst hörnkorrigerig	07	Corner	0	
Öst-Väst trapetskorrigering	08	Trapez	2	
EHT-kompensering	09	EHT	36	



2. Justera med markörknapparna (vänster/höger).



3. Spara inställningen med OK-knappen.

Obs!

- För att undvika ofullständig inställning bör justeringen sparas i minnet omedelbart efter ändring.
- Om justeringen måste göras skilt för olika bildformat, välj normalt användarläge med TV-knappen och ändra bildformatet med zoom-knappen. Återgå till service-läge med "i"-knappen.

Övriga bildinställningar

Justering	Kod	OSD-namn	Init. värde	Obs!
Röd förstärkning	17	R gain	41	Denna procedur är nödvändig när t.ex. bildrör eller CRT-modul är utbytt. Anslut en testbild och ställ in R-, G- och B-referens. Ställ därefter in R-, G- och B-förstärkning.
Grön förstärkning	18	G gain	32	
Blå förstärkning	19	B gain	32	
Röd referens	20	R ref.	52	
Grön referens	21	G ref.	21	
Blå referens	22	B ref.	16	
Låsningsnivå	11	Clamp	0	Normalt krävs ingen justering.
Vitbegränsning	23	PWL	63	Normalt krävs ingen justering.
Gamma korrigering	24	GAMMA	32	Normalt krävs ingen justering.
Tuner AGC	25	TV AGC	170	Anslut en 1 mV (60 dBµV) testsignal. Justera bilden brusfri.
CTI längd	26	CTI LEN	15	Normalt krävs ingen justering.
CTI känslighet	27	CTI SENS	7	Normalt krävs ingen justering.
Krominans- / Luminansfördröjning	28	Y138	7	Normalt krävs ingen justering. Separat justering för PALplus bildformat och RGB!
Svart sidfält, höger kant	29	BCK POS	201	Normalt krävs ingen justering.
Svart sidfält, vänster kant	30	BCK WID	90	Normalt krävs ingen justering.

Serviceinställningar

O Nätdelen

Drivspänning (U1) och skyddskrets

1. Ställ ljus och kontrast till normal nivå. Anslut en universal voltmätare till katoden på Do11.
2. Justera, med Po1, DC-spänningen (U1) , se sidan 25.
3. Kontrollera överströmsskyddet funktion efter serviceingrepp på nätdelens primärsida. Ställ mottagaren i beredskapsläge. Kortslut dioden Do13:ns katod till jord och håll kortslutningen på plats. Fungerar överströmsskyddet, stängs nätdelen omedelbart av. Ta bort kortslutningen och slå på apparaten med huvudströmbrytaren.

K Horisontalavläknings blocket

Fokus

Ställ ljus till normal nivå och kontrast till hög nivå. Använd en testbild med rutnmönster och justera bilden för maximum skärpa.

Skärmgallerspänning Ug2

1. Ställ kontrast i minimum, ljus och färgmättnad till normal nivå.
2. Efter vertikalsläckning finns en svartnivå mätpuls. Mät med ett oscilloskop på ICh1 stift 9, 12 och 15. Kontrollera vilket steg som har den högsta svartnivån (högsta spänningen på svartnivå mätpulsen).
3. Justera med Ug2 spänningen till +140 V.

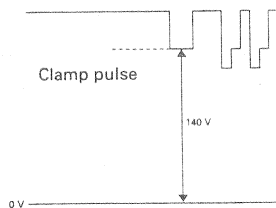
LL Bild och ljud MF-modulen

Videodemodulatern

1. Anslut en testsignal (1 mV = 60 dBµV).
2. Anslut en universal voltmätare till modulkontakten X1 stift 6.
3. Justera, med LL6, DC-spänningen till punkten där den växlar från 0 till 5 V.

Ljud demodulatern

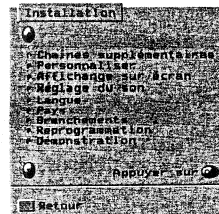
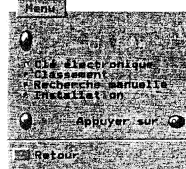
1. Anslut en CCIR B/G-norms (FM-modulerat ljud) testsignal.
2. Anslut en universalvoltmätare till ICL1 stift 13.
3. Justera, med LL1, DC-spänningen till +2,7 V.



Obs! Justera spänningen med låsningspulsen (Clamp puls).

Mode d'emploi

A Menu



Sélection de la langue

1. Appuyez sur la touche MENU.
2. Sélectionnez "Installation" à l'aide de la touche curseur (vers le haut ou vers le bas) et appuyez sur la touche OK.
3. Sélectionnez "Langue" et appuyez sur la touche OK.
4. Sélectionnez la langue souhaitée et appuyez sur la touche OK.
5. Appuyez sur la touche TV.

Recherche manuelle

1. Sélectionnez le numéro que vous souhaitez régler.
2. Appuyez sur la touche MENU.
3. Sélectionnez "Recherche manuelle" et appuyez sur la touche OK.
4. Commencez la recherche de chaîne en appuyant sur la touche rouge.
5. Memorisez en appuyant sur la touche OK.
6. Revenez en mode réception TV normale en appuyant sur la touche TV.

APSi

1. Appuyez sur la touche MENU.
2. Sélectionnez "Installation" et appuyez sur la touche OK.
3. Sélectionnez "Reprogrammation" et appuyez sur la touche OK.
4. Commencez la recherche de chaînes en appuyant sur la touche OK.
5. Revenez en mode réception TV normale en appuyant sur la touche TV.

B Menu



Sélection de la langue

1. Appuyez sur la touche PRG.
2. Sélectionnez Install. en appuyant sur la touche bleue.
3. Sélectionnez Langue en appuyant sur la touche rouge.
4. Sélectionnez la langue souhaitée à l'aide de la touche curseur (vers le haut ou vers le bas) et appuyez sur la touche OK.
5. Appuyez sur la touche TV.

Recherche manuelle

1. Appuyez sur la touche PRG.
2. Appuyez sur la touche rouge (Syntonis.).
3. Appuyez sur la touche rouge (Recherche).
4. Sélectionnez le numéro de programme sur lequel cette chaîne doit être mémorisée.
5. Appuyez sur la touche bleue (Mémorise).
6. Revenez en mode réception TV normale en appuyant sur la touche TV.

APSi

1. Appuyez sur la touche PRG.
2. Appuyez sur la touche bleue (Install.).
3. Appuyez sur la touche jaune (Reprog).
4. Appuyez sur la touche rouge (APSi).
5. Appuyez sur la touche verte (Reprog).
6. Appuyez sur la touche bleue (OK) pour quitter.

NVRAM (ICf2)

Installation de la NVRAM

Si la mémoire NVRAM est remplacée ou si elle a perdu la totalité de ses données, elle doit être initialisée et configurée. Dans la procédure suivante, on considère que le téléviseur ne démarre pas du tout en raison de la présence de données erronées dans la NVRAM.

1. Définissez le récepteur en mode service: Après avoir mis en marche votre récepteur à l'aide de l'interrupteur principal, vous devez appuyer successivement, dans les cinq secondes, sur les touches MENU, TV et "i" de la télécommande. Remarque! Le récepteur est en mode service même si rien ne s'affiche à l'écran!
2. Appuyez sur le bouton rouge pour préconfigurer le téléviseur. Le voyant vert clignote alors une fois.
- 3a En même temps, le contrôleur vérifie la NVRAM et l'initialise automatiquement si elle était "vide". L'initialisation prend environ 15 secondes. Lorsqu'elle est terminée, le voyant vert s'allume. Passez à l'étape 4.
- 3b Si le voyant vert ne s'allume pas, l'initialisation automatique n'a pas eu lieu. Dans certains cas, le voyant peut aussi s'allumer immédiatement après la configuration sans qu'il y ait initialisation, selon le contenu de la mémoire NVRAM. Dans ce cas, l'enregistrement de la nouvelle configuration à l'aide de la touche "OK" et le passage à l'étape 4 peuvent suffire.
- 3c Si l'initialisation automatique n'a pas eu lieu, vous pouvez la lancer manuellement en entrant le code clé : bleue, 2, 5 et 4. L'initialisation prendra environ 15 secondes.
4. Eteignez votre récepteur.
5. Définissez le récepteur en mode service: Après avoir mis en marche votre récepteur à l'aide de l'interrupteur principal, vous devez appuyer successivement, dans les cinq secondes, sur les touches MENU, TV et "i" de la télécommande. S'il reste en mode veille, appuyez deux fois sur le bouton TV et ensuite sur le bouton "i".
6. Configurez le en appuyant sur le bouton rouge. Un menu de configuration apparaîtra.
7. Appuyez sur le bouton OK.
8. Appuyez sur la touche TV et effectuez le réglage d'un ou de plusieurs canaux de télévision.
9. Revenez au mode de service en appuyant sur la touche "i".
10. Effectuez ensuite tous les réglages de service (voir le chapitre "Réglages de service au moyen du bus IIC").
11. L'installation est terminée. Vous pouvez, maintenant, éteindre votre récepteur.

Réglages de service

Sélection du mode service

1. Le récepteur est mis en mode service lors de sa mise en marche à l'aide de l'interrupteur principal et en appuyant successivement dans les cinq secondes sur les touches MENU, TV, et "i" de la télécommande.

Remarque! Si le récepteur reste en mode veille après avoir sélectionné le mode service, allumez-le en appuyant deux fois sur la touche TV et sélectionnez le mode service en appuyant sur la touche "i".



En mode service, un menu de réglages (comprenant le numéro et le nom du réglage, les valeurs d'initialisation (gauche) et de réglages (droite)) s'affiche à l'écran.

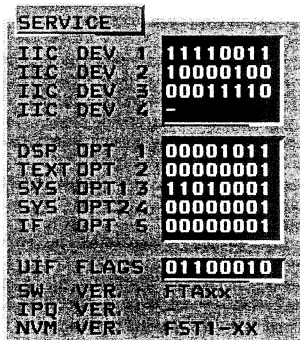
2. Sortez du mode service en éteignant le récepteur à l'aide de l'interrupteur principal.

Configuration et diagnostic des défauts

L'appareil doit être configuré après ajout ou suppression de certaines options. En appuyant sur la touche rouge en mode service, le processeur vérifie toutes les adresses possibles des circuits conduisant au bus et affiche les réglages à l'écran. Cette propriété peut également être utilisée lors de la recherche d'un défaut ; si un bit d'option n'est pas "1" lorsqu'il le faudrait ou s'il n'est pas possible de le mettre sur "1" en utilisant les touches numérotées, le IC est, soit absent, soit défectueux.

Changement des octets d'option

1. En mode service, sélectionnez le mode configuration en appuyant sur la touche rouge.



Description

SW VER. = version du programme µP
NVM VER. = version du programme du NVM.

2. Sélectionnez l'octet 1 - 4 du système IIC ou l'octet d'option 1 - 5 avec les touches curseurs (vers le haut ou vers le bas). Sélectionnez l'octet apparaissant en lumière brillante.
3. Placez les bits à l'aide des touches numérotées (0 ... 7).
4. Mémorisez les réglages en appuyant sur la touche OK.
5. Repassez en mode service en appuyant à nouveau sur la touche rouge.

Descriptions des octets d'option

Bit	Description	Present	'1'	'0'
7 6 5 4 3 2 1 0 IIC DEV 1 01111011				
0	Tuner TV		oui	non
1	Décodeur TDA9141		oui	non
5	Processeur RVB TDA4780		oui	non
6	Matrice vidéo TDA6417		oui	non
7	Contrôleur PIP SDA9188		oui	non
IIC DEV 2 10000100				
0	Tuner PIP		oui	non
2	Mégatexte SDA5273		oui	non
7	MSP3400 / 3410		oui	non
IIC DEV 3 00010010				
0	DSP (AR600)		oui	non
1	Boomer		oui	non
2	SDA 9280 (PAL+)		oui	non
3	PAL+/WSS 87C752		oui	non
4	Filtre en peigne (basse ligne SVHS)		oui	non
6	DSP (AR602)		oui	non
DSP OPT 1 00001000				
0-2	Configuration des haut-parleurs (passez en mode utilisateur)			
4	Fractionnement des basses		oui	non
6-7	Pré-égalisation des haut-parleurs pour les ébénisteries E et B2		oui	non
TXT OPT 2 00000001				
0	TXT grâce au RAM externe		oui	non
2	Flof text possible (manuel)		oui	non
4	TXT accrochage mode (manuel)		oui	non
5	TXT souspage défilement (manuel)		oui	non
SYS OPT 3 11010001				
0	Prise pour camera installée (manuel)		oui	non
3	RGB E1		oui	non
4	NTSC 3.58 MHz		oui	non
5	ACI possible (manuel)		oui	non
6	NICAM possible (manuel)		oui	non
7	Loudness (manuel)		oui	non
SYS OPT 4 00000000				
0	TV démarrage rupteur de linge		non	oui
2	Démarrage TV mode demo (manuel)		oui	non
7	Hotel TV function possible (manuel)		oui	non
IIF OPT 5 00000001				
0	Système B/G		oui	non
1	Système I		oui	non
2	Système D/K		oui	non
3	Système L/L'		oui	non
5	Bande de base		oui	non
7	Uniquement tuner UHF		oui	non
IIF FLAGS 01100010				
4	Option OEM		oui	non

Réglages de service au moyen du Bus IIC

Les touches de la télécommande en mode service.

Lorsque le récepteur est en mode service, vous pouvez sélectionner le mode TV normale en appuyant sur la touche TV et repasser en mode service en appuyant sur la touche "i". Les touches curseurs et numérotées sont utilisées pour réaliser les réglages de service. La touche jaune dissimule temporairement le menu service. La touche OK permet de mémoriser les réglages.

Attention! Contrôler le réglage d'U1 avant l'équilibrage.

Réglages pour les différents formats d'image

Réalisez d'abord tous les réglages en format d'image normale 4:3. Le téléviseur utilise ces valeurs de réglages pour tous les formats d'image si aucun autre réglage n'a été réalisé. Pour chaque réglage, il est précisé si le réglage doit être fait séparément pour les différents formats d'image, répétez seulement ces réglages.

Remarque ! Le réglage de la géométrie doit être effectuée avec une image en format 16:9.

Réalisation des réglages de service

1. Donnez un code à deux chiffres permettant de définir le réglage à l'aide des touches numérotées. (ex. 05 = phase horizontale, consultez les tableaux suivants)

Remarque ! Les réglages peuvent être également sélectionnés grâce aux touches curseurs (vers le haut / vers le bas).

Réglages de l'image verticale

Réglage	Code	Nom OSD	Valeur Init.	Remarque!
Amplitude verticale	00	V-ampl.	43	Réglez la hauteur de l'image selon une proportion correcte.
Décentrage verticale	01	V-shift	3	Réglez le front de couleur au centre de l'écran.
Balayage verticale	02	V-start	6	Réglez la partie basse de l'image selon une proportion correcte.
Correction S verticale	03	S-corr.	27	
Dent de scie verticale zoom 4:3 (grossière)	12	Zoom-H	71	Sélectionnez le format d'image zoom 4:3 et réglez l'image selon une proportion correcte.
Dent de scie verticale zoom 4:3 (précise)	13	Zoom-L	0	Réglage séparé pour une transmission 60 Hz NTSC!
Valeur de centre, déplacement zoom 4:3 (attendre V)	14	Shift	28	Avant tout réglage, sélectionnez le format d'image zoom 4:3!

Réglages horizontaux d'image

Réglage	Code	Nom OSD	Valeur Init.	Remarque!
Largeur E-W	04	Width	35	
Phase horizontale	05	H-shift	27	Réglages séparés pour format d'image normal 4:3, zoom 4:3 et les formats plein écran (zoom1 4:3, zoom2 4:3, 16:9 ou PALplus; régler seulement un des formats)!
Phase H RGB				De plus, faites les mêmes réglages en utilisant le signal RGB.
Phase H RGB zoom				
Parabole E-W	06	Parab.	13	
Coin E-W	07	Corner	0	
Déformation trapézoïdale EW	08	Trapez	2	
Compensation EHT	09	EHT	36	Portez la lumière et le contraste à 90% et compensez le changement dans la taille de l'image.



2. Effectuez le réglage avec les touches curseurs (gauche/droite).

3. Mémorisez la nouvelle valeur en appuyant sur la touche OK.

Remarque !

- Pour éviter des réglages incomplets, mémorisez immédiatement chaque réglage après l'avoir réalisé.
- Si le réglage doit être fait séparément pour les différents formats d'image, sélectionnez le mode normal d'utilisation en appuyant sur la touche TV et changez le format d'image grâce à la touche zoom. Repassez en mode service en appuyant sur la touche "i".

Réglages	Code	Nom OSD	Valeur init.	Remarque!
Amplification rouge	17	R gain	41	Remarque! La procédure est nécessaire lorsque, par exemple, le tube image ou le module CRT a été remplacé. Appliquez une mire et réglez les références R, G et B. Réglez ensuite les gains R, G et B.
Amplification vert	18	G gain	32	
Amplification bleu	19	B gain	32	
Référence rouge	20	R ref.	52	
Référence verte	21	G ref.	21	
Référence bleue	22	B ref.	16	
Déplacement du support	11	Clamp	0	Normalement pas besoin de régler.
Seuil des crêtes de blanc	23	PWL	63	Normalement pas besoin de régler.
Correction gamma	24	GAMMA	32	Normalement pas besoin de régler.
Tuner CAG	25	TV AGC	170	Appliquez un signal test de 1 mV (60 dBμV) Réglez l'image exactement sans bruit.
Longueur CTI	26	CTI LEN	15	Normalement pas besoin de régler.
Sensibilité CTI	27	CTI SENS	7	Normalement pas besoin de régler.
Retard Luminance / Chrominance	28	Y138	7	Normalement pas besoin de régler.
				Réglage séparé pour une image en PALplus le RGB.
Rideau noir, front droit	29	BCK POS	201	Normalement pas besoin de régler.
Rideau noir, front gauche	30	BCK WID	90	Normalement pas besoin de régler.

Réglages de service

O Bloc d'alimentation de puissance

Tension d'alimentation (U1) et circuit de protection

- Placez la lumière et le contraste sur le niveau normal.
Branchez un voltmètre à la cathode de Do11.
- Réglez la tension DC (U1) sur Po1, envisager page 25.
- Vérifiez le courant de protection. Mettez le récepteur en mode veille. Court-circuitez la cathode de Do13 avec la masse.
Lorsque le courant de protection est actif, l'alimentation s'arrête. Enlevez le court-circuit et éteignez votre récepteur.

K Bloc de deviation horizontale

Focalisation

Placez la lumière sur le niveau normal et le contraste sur le niveau élevé. Utilisez la mire et réglez l'image pour obtenir une mire excellente.

Tension de G2

- Placez le contraste sur le minimum, la saturation de lumière et de couleur sur le niveau normal.
- Utilisez un oscilloscope et contrôlez le niveau du palier arrière du niveau de noir (avant l'information vidéo) aux bornes 9, 12 et 15 de ICh1.
- Réglez, à l'aide du potentiomètre de Ug2, le niveau du palier arrière le plus haut à +140 V sur Ug2 (consultez le dessin).

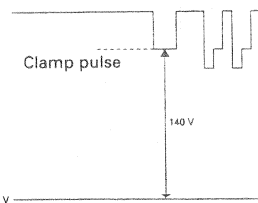
LL Module IF du son et de l'image

Démodulateur vidéo

- Appliquez un signal test (1 mV = 60dBμV).
- Branchez un voltmètre à la borne 6 de la prise du module X1.
- Réglez la tension DC avec LL6 sur le point où il change de 0 à 5 V.

Démodulateur du son

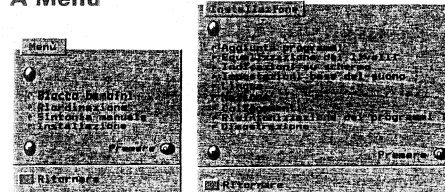
- Appliquez un signal test de la norme CCIR B/G (son modulé FM).
- Branchez un voltmètre à la borne 13 de ICL1.
- Réglez la tension DC avec le LL1 pour obtenir +2.7 V.



Remarque ! Réglez la tension avec le clamp.

Istruzioni l'uso

A Menu



Selezione della lingua

- Premere il tasto MENU.
- Selezionare "Installazione" tramite il tasto cursore (su/giù) e premere il tasto OK.
- Selezionare "Lingua" e premere il tasto OK.
- Selezionare la lingua desiderato e premere il tasto OK.
- Premere il tasto TV.

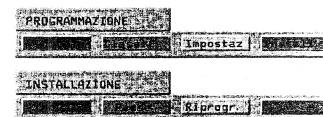
Sintonia manuale

- Selezionare il numero programma che si desidera sintonizzare.
- Premere il tasto MENU.
- Selezionare "Sintonia manuale" e premere il tasto OK.
- Avviare la ricerca canali premendo il tasto rosso.
- Memorizzare le impostazioni premendo il tasto OK.
- Ritornare alla normale ricezione TV premendo il tasto TV.

APSI

- Premere il tasto MENU.
- Selezionare "Installazione" e premere il tasto OK.
- Selezionare "Risintonizzazione" dei programmi TV e premere il tasto OK.
- Avviare la ricerca canali premendo il tasto rosso.
- Ritornare alla normale ricezione TV premendo il tasto TV.

B Menu



Selezione della lingua

- Premere il tasto PRG.
- Premere il tasto azzurro per selezionare Install.
- Premere il tasto rosso per selezionare Lingua (Language).
- Selezionare la lingua desiderato tramite il tasto cursore (su/giù) e premere il tasto OK.
- Premere il tasto TV.

Sintonia manuale

- Premere il tasto PRG.
- Premere il tasto rosso (Sintonia).
- Premere il tasto rosso (Ricerca).
- Selezionare il numero del programma.
- Premere il tasto azzurro (Memoria).
- Ritornare alla normale ricezione TV premendo il tasto TV.

APSI

- Premere il tasto PRG.
- Premere il tasto azzurro (Install.).
- Premere il tasto giallo (Riprog.).
- Premere il tasto rosso (APSI).
- Premere il tasto verde (Riprog.).
- Premere il tasto azzurro (OK) per uscire.

NVRAM (ICf2)

Installazione della NVRAM

La memoria NVRAM deve essere inizializzata e configurata nel caso in cui venga sostituita oppure tutti i dati in essa contenuti siano andati perduti. La procedura di seguito riportata presuppone che l'apparecchio TV non si avvia affatto a causa di dati errati presenti nella memoria NVRAM.

- Portare l'apparecchio in modo di servizio accendendolo con l'interruttore di rete ed, entro 5 secondi, premendo i tasti "MENU" "TV" e "I" in sequenza.
Nota: Il televisore è in modo servizio anche se sembra essere in stand-by.
- Premere il tasto rosso per preconfigurare l'apparecchio TV.
Al termine della preconfigurazione, l'indicatore verde lampeggerà una volta.
- Contemporaneamente l'unità di controllo verificherà la memoria NVRAM e la inizierà automaticamente qualora risulti "vuota". La procedura di inizializzazione durerà circa 15 secondi. Una volta terminata tale procedura, si accenderà l'indicatore verde.
Proseguire con il punto 4.
- Se l'indicatore verde non si accende a luce fissa, l'inizializzazione automatica non ha avuto luogo. In alcuni casi, l'indicatore verde potrebbe anche accendersi subito dopo la configurazione, senza che abbia avuto luogo alcuna procedura di inizializzazione, a seconda del contenuto della memoria NVRAM. In tal caso, potrebbe essere sufficiente memorizzare la nuova configurazione premendo il tasto "OK" e proseguire con il punto 4.
- Se l'inizializzazione automatica non ha avuto luogo, è possibile avviarla automaticamente immettendo il codice chiave, premendo in sequenza i seguenti tasti: azzurro, 2, 5 e 4. La procedura di inizializzazione durerà circa 15 secondi.
- Spegnere l'apparecchio tramite l'interruttore di rete.
- Portare l'apparecchio in modo di servizio accendendolo con l'interruttore di rete ed, entro 5 secondi, premendo i tasti "MENU" "TV" e "I" in sequenza.
Se l'apparecchio rimane in stand-by premere due volte il tasto TV e poi il tasto "I".
- Configurare l'apparecchio premendo il tasto rosso. Sullo schermo apparirà il menu configurazione.
- Premere il tasto OK.
- Premere il tasto TV e sintonizzare uno o più canali.
- Tornare al modo manutenzione premendo il tasto "I".
- Effettuare tutte le regolazioni di servizio (Vedere "Regolazioni di servizio tramite IIC bus").
- Spegnere l'apparecchio tramite l'interruttore di rete.

Regolazioni di servizio

Selezione del modo servizio

1. L'impostazione del modo servizio avviene accendendo il ricevitore tramite l'interruttore generale e premendo in sequenza i tasti del telecomando MENU, TV e "i" entro 5 secondi.

Nota: Se il ricevitore rimane in standby dopo aver selezionato il modo servizio, accendere l'apparecchio TV premendo due volte il tasto TV e selezionare il modo servizio premendo il tasto "i".



Quando il ricevitore è in modo servizio, viene visualizzato sullo schermo un menu delle regolazioni (indicante anche il nome ed il numero di ciascuna regolazione, i valori di inizializzazione (sinistra) e regolazione (destra)).

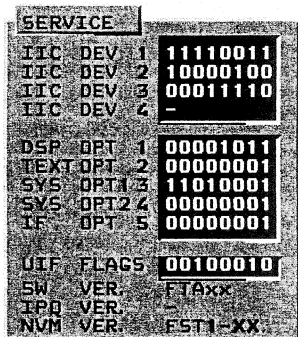
2. Per uscire dal modo servizio, spegnere il ricevitore tramite l'interruttore generale.

Configurazione e diagnostica

L'apparecchio TV deve essere configurato qualora si aggiungano o si eliminino delle opzioni. Premendo il tasto rosso in modo servizio, il processore controlla tutti gli indirizzi possibili dei circuiti con bus e visualizza le impostazioni sullo schermo. Questa funzione può anche essere utilizzata per la diagnostica; se il bit di un'opzione non è "1" (quando invece dovrebbe esserlo) oppure non è possibile impostarlo su "1" usando i tasti numerici, significa che l'IC non è presente oppure è difettoso.

Modifica dei bit di opzione

1. In modo servizio, selezionare il modo configurazione premendo il tasto rosso.



Descrizione

SW VER. = Versione software µP.
NVM VER. = Versione software NVM.

2. Selezionare IIC Device Byte 1 o 4 oppure Option Byte 1 - 5 tramite i tasti cursore (su/giù). Il byte selezionato compare evidenziato sullo schermo.
3. Impostare i bit tramite i tasti numerici (da 0 a 7).
4. Memorizzare le impostazioni premendo il tasto OK.
5. Tornare al modo servizio premendo di nuovo il tasto rosso.

Descrizioni dei byte di opzione

Bit	Descrizione	Impostazione	'1'	'0'
7 6 5 4 3 2 1 0				
IIC DEV 1 01110011				
0	Sintonizzatore TV	Si	No	
1	Decodificatore TDA9141	Si	No	
5	Processore RGB TDA4780	Si	No	
6	Interruttore video TDA6417	Si	No	
7	Controllore PIP SDA9188	Si	No	

IIC DEV 2 10000110				
0	PIP Sintonizzatore	Si	No	
2	Megatext SDA5273	Si	No	
7	MSP3400 / 3410	Si	No	

IIC DEV 3 00010010				
0	DPL (AR600)	Si	No	
1	Subwoofer	Si	No	
2	SDA 9280 (PAL+)	Si	No	
3	PAL+WSS 87C752	Si	No	
4	Filtro Comb (SVHS a bassa linea)	Si	No	
6	DPL (AR602)	Si	No	

DSP OPT 1 00001000				
0-2	Configurazione altoparlanti (modo utente)			
4	Sdoppiamento bassi	Si	No	
6-7	Pre-equalizzazione altoparlanti surround DSP	Si	No	

TXT OPT 2 00000001				
0	TXT con RAM esterna	Si	No	
2	Flof text abilitato (manuale)	Si	No	
4	Modo di sincronizz. televideo (manuale)	Si	No	
5	Scorrimento subpagine televideo (manuale)	Si	No	

SYS OPT 3 11110001				
0	Connettore camera installato (manuale)	Si	No	
3	RGB E1	Si	No	
4	NTSC 3.58 MHz	Si	No	
5	ACI abitato (manuale)	Si	No	
6	NICAM abilitato (manuale)	Si	No	
7	Loudness abilitato (manuale)	Si	No	

SYS OPT 4 00000000				
0	Accensione del TV con l'interruttore	No	Si	
6	Accensione del TV in modo demo (manuale)	Si	No	
7	Funzioni hotel abilitate (manuale)	Si	No	

IF OPT 5 00000001				
0	Sistema B/G	Si	No	
1	Sistema I	Si	No	
2	Sistema D/K	Si	No	
3	Sistema L/L'	Si	No	
5	Banda base	Si	No	
7	Solo sintonizzatore UHF	Si	No	

UIF FLAG5 01100010				
4	Opzione OEM	Si	No	

Regolazioni di servizio tramite bus IIC

Uso del telecomando nel modo servizio

Quando si è in modo servizio, è possibile passare al normale modo TV premendo il tasto TV sul telecomando ed eventualmente tornare al modo servizio premendo il tasto "i", sempre sul telecomando.

Le regolazioni di servizio vengono effettuate tramite i tasti numerici ed i tasti cursore. Il tasto giallo nasconde temporaneamente il menu di servizio, mentre il tasto OK memorizza le impostazioni.

Attenzione! Prima di effettuare l'equilibratura, controllare la regolazione U1.

Regolazione per un diverso formato immagine

Effettuare prima tutte le regolazioni necessarie con il formato immagine 4:3 normale. L'apparecchio TV utilizza questi valori per tutti i formati immagine se non sono state effettuate altre regolazioni. Per ciascuna regolazione viene specificato se deve essere effettuata separatamente per un diverso formato immagine, nel qual caso ripetere soltanto le regolazioni che interessano.

Nota: Le regolazioni di geometria dell'immagine devono essere effettuate nel formato 16:9.

Come effettuare le regolazioni di servizio

1. Immettere tramite i tasti numerici il codice a due cifre relativo alla regolazione che si desidera effettuare (ad esempio, 05 = fase orizzontale; fare riferimento alle tabelle di seguito riportate).

Nota: Le regolazioni possono essere selezionate anche tramite i tasti cursore (su/giù).

Regolazioni verticali dell'immagine

Regolazione	Codice	Display	Valore iniz.	Nota:
Ampiezza verticale	00	V-ampl.	43	Regolare l'altezza dell'immagine sul rapporto corretto.
Spostamento centratura verticale	01	V-shift	3	Regolare il fronto del colore al centro dello schermo.
Inizio scansione verticale	02	V-start	6	Regolare la metà superiore dell'immagine sul rapporto corretto.
Correzione-S verticale	03	S-corr.	27	
Pendenza verticale 4:3 zoom (approssimata)	12	Zoom-H	71	Selezionare il formato immagine 4:3 zoom e regolare l'immagine sul rapporto corretto.
Pendenza verticale 4:3 zoom (fine)	13	Zoom-L	0	Regolazione separata per le trasmissioni NTSC a 60 Hz!
Valore centratura, spostamento 4:3 zoom (V-wait)	14	Shift	28	Prima di effettuare la regolazione, selezionare il formato immagine 4:3 zoom!

Regolazioni orizzontali dell'immagine

Regolazione	Codice	Display	Valore iniz.	Nota:
Larghezza EW	04	Width	35	
Fase orizzontale	05	H-shift	27	Regolazioni separate per i formati 4:3 normale, 4:3 zoom e tutto schermo (oppure, anziché tutto schermo, i formati 4:3 zoom1, 4:3 zoom2, 16:9 o PALplus; in questi casi, effettuare le regolazioni con uno solo di questi formati)!
RGB fase orizzontale				Inoltre, effettuare le stesse regolazioni usando il segnale RGB.
Zoom RGB fase orizzontale				
Parabola EW	06	Parab.	13	
Angolo EW	07	Corner	0	
Trapezoidale EW	08	Trapez	2	
Compensazione EHT	09	EHT	36	Impostare luminosità e contrasto a 90% e modificare di conseguenza la dimensione dell'immagine.



2. Effettuare la regolazione tramite i tasti cursore (destra/sinistra).



3. Memorizzare i nuovi valori premendo il tasto OK.

Nota:

- Per evitare regolazioni incomplete, si consiglia di memorizzare ciascuna regolazione immediatamente dopo averla effettuata.
- Se una regolazione deve essere effettuata separatamente per un diverso formato immagine, selezionare il normale modo utente premendo il tasto TV e modificare il formato immagine tramite il tasto zoom. Tornare al modo servizio premendo il tasto "i".

Altre regolazioni

Regolazione	Codice	Display	Valore iniz.	Note!
Guadagno rosso	17	R gain	41	Questa procedura è necessaria quando si ostituisce il cinescopio, il modulo CRT etc! Collegare un segnale test e regolare i riferimenti di R, G e B. Regolare il guadagno di R, G e B.
Guadagno verde	18	G gain	32	
Guadagno blu	19	B gain	32	
Riferimento rosso	20	R ref.	52	
Riferimento verde	21	G ref.	21	
Riferimento blu	22	B ref.	16	
Spostamento aggancio	11	Clamp	0	Regolazione generalmente non necessaria. Regolazione generalmente non necessaria. Regolazione generalmente non necessaria. Applicare un segnale di test 1 mV (60 dBuV). Regolare al meglio l'immagine.
Limite picco bianco	23	PWL	63	
Correzione gamma	24	GAMMA	32	
Sintonizzatore AGC	25	TV AGC	170	
Durata del CTI	26	CTI LEN	15	Regolazione generalmente non necessaria. Regolazione generalmente non necessaria. Regolazione separata per immagini PALplus o RGB. Regolazione generalmente non necessaria. Regolazione generalmente non necessaria.
Sesibilità del CTI	27	CTI SENS	7	
Ritardo di cromaticità e luminanza	28	Y138	7	
Bordo nero, margine di destra	29	BCK POS	201	
Bordo nero, margine di sinistra	30	BCK WID	90	

Regolazioni di servizio

O Blocco alimentatore

Circuito di protezione dell'alimentatore (U1)

- Regolare la luminosità ed il contrasto sui valori normali. Collegare un voltmetro universale al catodo di Do11.
- Regolare con Po1 la tensione cc (U1), vedere pagina 25.
- Controllare sempre la protezione alle sovracorrenti dopo aver effettuato qualsiasi operazione di servizio sul circuito primario dell'alimentazione. Per controllarla procedere come segue:
Portare l'apparecchio in stand-by.
Cortocircuitare il catodo del Do13 a massa e mantenere il corto circuito. Se la protezione alle sovracorrenti lavora correttamente, l'alimentatore viene bloccato.
Togliere il corto circuito e accendere l'apparecchio dall'interruttore di rete.

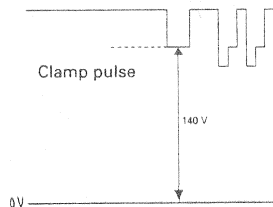
K Blocco deflessione orizzontale

Messa a fuoco

Regolare la luminosità ad un livello normale ed il contrasto ad un livello alto. Utilizzando un quadro di test, regolare l'immagine fino ad ottenere il livello di risoluzione ottimale.

Tensione di griglia schermo, Ug2

- Regolare il contrasto sul valore minimo e la luminosità e la saturazione colore sui valori normali.
- Con un oscilloscopio controllare l'ampiezza degli impulsi di aggancio del livello del nero inserito (Inserted black level) per la durata di 3 righe dopo lo spegnimento verticale su ICh1 piedino 9, 12 e 15.
- Con Ug2 regolare a +140 V l'ampiezza dell'impulso di aggancio più alto (vedere figura).



Nota: Regolare la tensione con l'impulso di aggancio.

LL Modulo fi video e audio

Demodulatore video

- Applicare un segnale di test (1 mV = 60 dBuV).
- Collegare un voltmetro universale al connettore del modulo X1 piedino 6.
- Regolare con LL6 la tensione cc fino al punto in cui passa da 0 a 5 V.

Demodulatore audio

- Applicare un segnale di test CCIR B/G standard (suono modulato FM).
- Collegare un voltmetro universale a ICL1 piedino 13.
- Regolare con LL1 la tensione cc a +2,7 V.

Variable components AP/AW

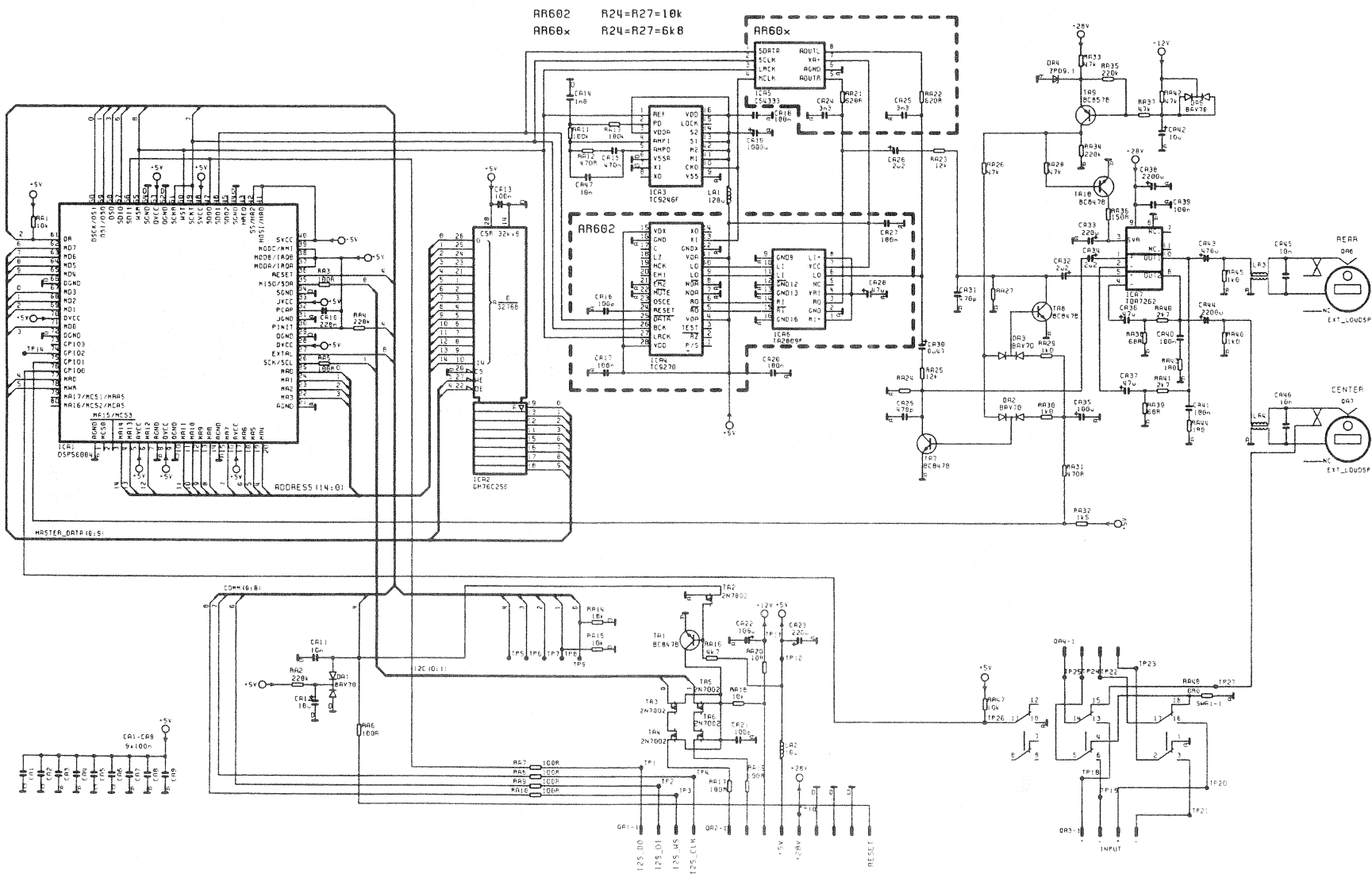
Röhrenabhängige bauteile AP/AW

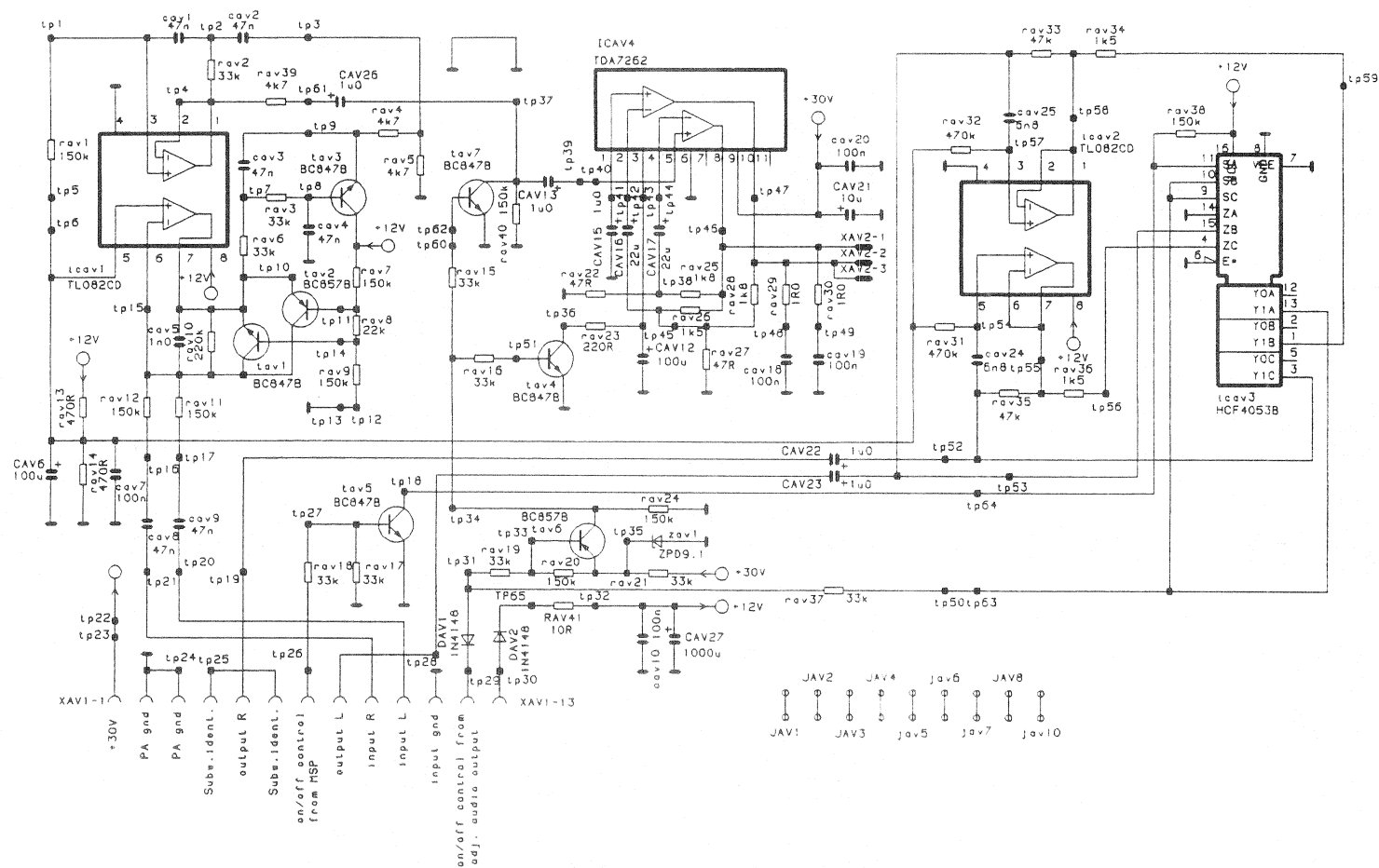
Composant variables AP/AW

Componenti che differiscono AP/AW

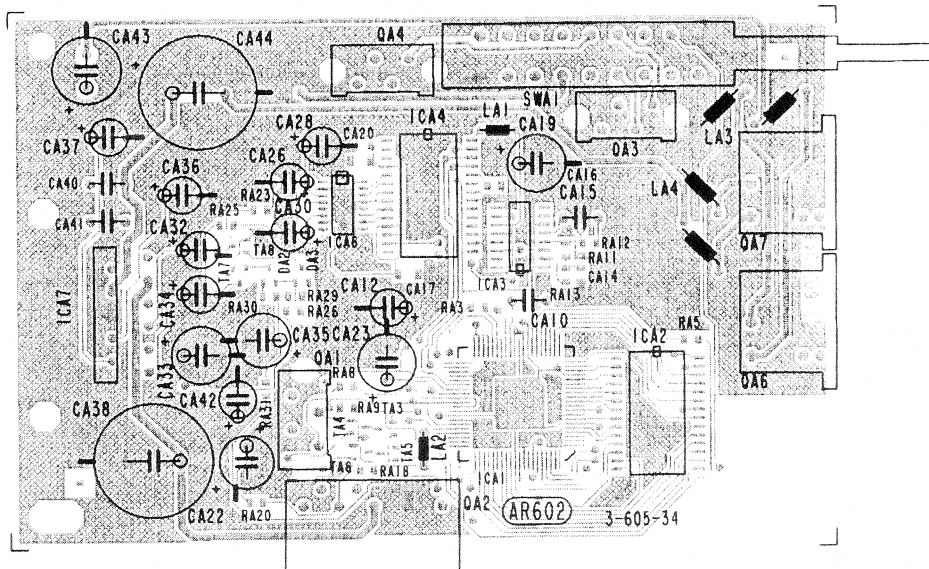
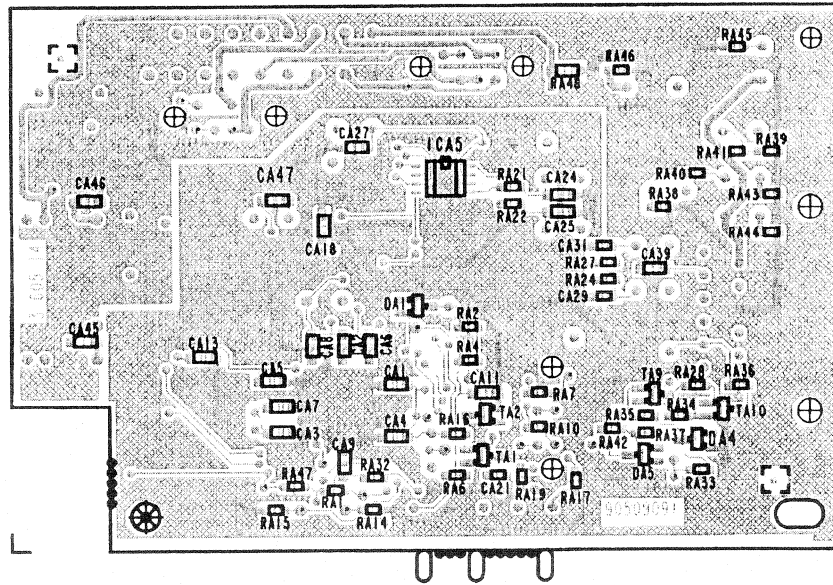
Komponentenkillnad AP/AW

	Vi 32	Vi 28	Vi 28	To 24	To 32	Vi 32	Vi 24
	EDL	EDX	EDX	W56LCZ	W76KYR	W76EGX	W56EGV
	013x101	013x001	013x001	693x01	690x01	023x115	023x115
	AP**F	AP**H	AW**H	AW**K	AP**A	AP**P	AW**R
	PW-671	PW-673	PW-673	PW-674	PW-675	PW-676	PW-677
Rk1	47k	47k	47k	47k	47k	100k	100k
Rk3	68k	68k	68k	150k	47k	47k	100k
Rk15	1R2 0.5W	1R2 0.5W	1R2 0.5W	3R0 0.5W	1R5 0.7W	-	-
Rk16	4R7	4R7	4R7	-	4R7	T2A	T2A
Rk52	10R Rad	10R Rad	10R Rad	10R Rad	10R Rad	10R Aks	10R Aks
Rk54	0R47	0R47	0R47	0R47	0R47	0R47 0.5W	0R47 0.5W
Rk57	33k	33k	33k	33k	33k	4k7	4k7
Rk60	-	-	-	-	-	470k	470k
Rk61	-	-	-	-	-	0R1	-
rk44	82k	100k	100k	100k	100k	47k	56k
Rs10	-	-	-	470R	-	-	390R 0.5W
rs 1	1k8	1k8	1k8	1k8	1k8	1k8	1k8
Rs2	1R2	1R2	1R2	0R82 (R2)	0R82	0R82	1R21
Rs3	1R2	1R2	1R2	0R82 (R2)	0R82	1R0	1R21
Rs4	470R	470R	470R	470R	330R 0.5W	560R	390R 0.5W
Rs6	33R 0.5W	33R 0.5W	33R 0.5W	33R 0.5W	33R 0.5W	33R 0.5W	33R 0.5W
Rs8	470R	470R	470R	470R	330R 0.5W	560R	390R 0.5W
rt25	220R	220R	220R	220R	220R	180R	180R
Rt35	-	-	-	-	-	150k	150k
Ck51	1n0	1n0	1n0	1n0	1n0	1n5	1n5
Ck52	9n1	9n1	9n1	10n	9n1	12n	12n
Ck53	27n	27n	27n	27n	27n	47n	47n
Ck54	240n	240n	240n	180n	240n	1u0	1u0
Ck55	120n	120n	120n	120n	120n	220n	220n
Ck57	2U2	2U2	2U2	2U2	2U2	4U7	4u7
Ck58	470n	470n	470n	470n	470n	470n	470n
Ck60	-	-	-	-	-	680n	680n
Ck61	-	-	-	-	-	100u	-
Ck62	-	-	-	-	-	330p	-
Ck63	-	-	-	-	-	1000u	1000u
ck73	100p	100p	100p	100p	100p	1n5	1n5
TRK1	Eldor	Eldor	Eldor	Eldor	Eldor	EL9009B	EL9009B
XS2	yes	yes	-	-	yes	yes	-
TRQ1	FM3602B	FM3602B	FM3602B	FM3602B	FM3602B	FM3603	FM3603
dZk4	BZX849V1	BZX849V1	BZX849V1	BZX849V1	BZX849V1	BZX812V	BZX12V
Dzk5	-	-	-	-	-	BZX7915	BZX7915
Dk10	-	-	-	-	-	1N4148	1N4148
Dk9	-	-	-	-	-	1N4937	-
Ro41	100k	100k	100k	100k	100k	86,6k	82k5
Ro71	2R7 1.5W	2R7 1.5W	2R7 1.5W	2R7 1.5W	2R7 1.5W	10R 2W	10R 2W
Lk52	5920903700	5920903700	5920903700	5920903700	5920902000	5920903700	5920903700
Lk53	-	-	-	-	9mH	9mH	-
J 44	jumper 10,0	jumper 10,0	-	-	jumper 10,0	jumper 10,0	jumper 10,0
J 1,51	jumper 7,5	jumper 7,5	coil 3.5x9	coil 3.5x9	jumper 7,5	jumper 7,5	jumper 7,5
J 84	-	-	-	-	-	no	no
J 108	-	-	-	-	-	no	no
J 350	-	-	-	-	-	no	yes
J 351	-	-	-	-	-	yes	yes
J 143	-	-	-	-	-	yes	no
foliop.	-	-	jumper 20,0	jumper 20,0	-	-	-
Cancellor	X	X	X	-	X	X	-
fok.bl.	-	temic 667	temic 667	temic 667	-	-	temic 831
FO670	X	-	-	-	X	X	-
FO602	-	-	-	-	X	-	-
CRT-Base modul HH6**	HH653	HH654	HH654	HH657	HH656	HH655	HH654
U3	14V	14V	14V	14V	14V	17V	17V
GND	2,8mm	2,8mm	2,8mm	2,8mm	-	2,8mm	-
200V	-	-	-	-	lattal.2,8mm	-	-
U1	155V	155V	155V	155V	155V	135V	132V

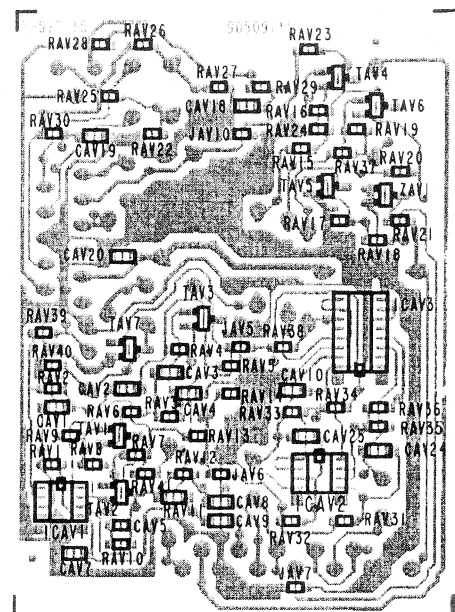
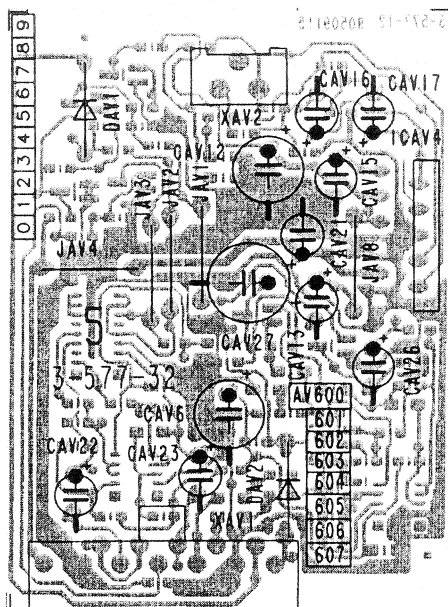


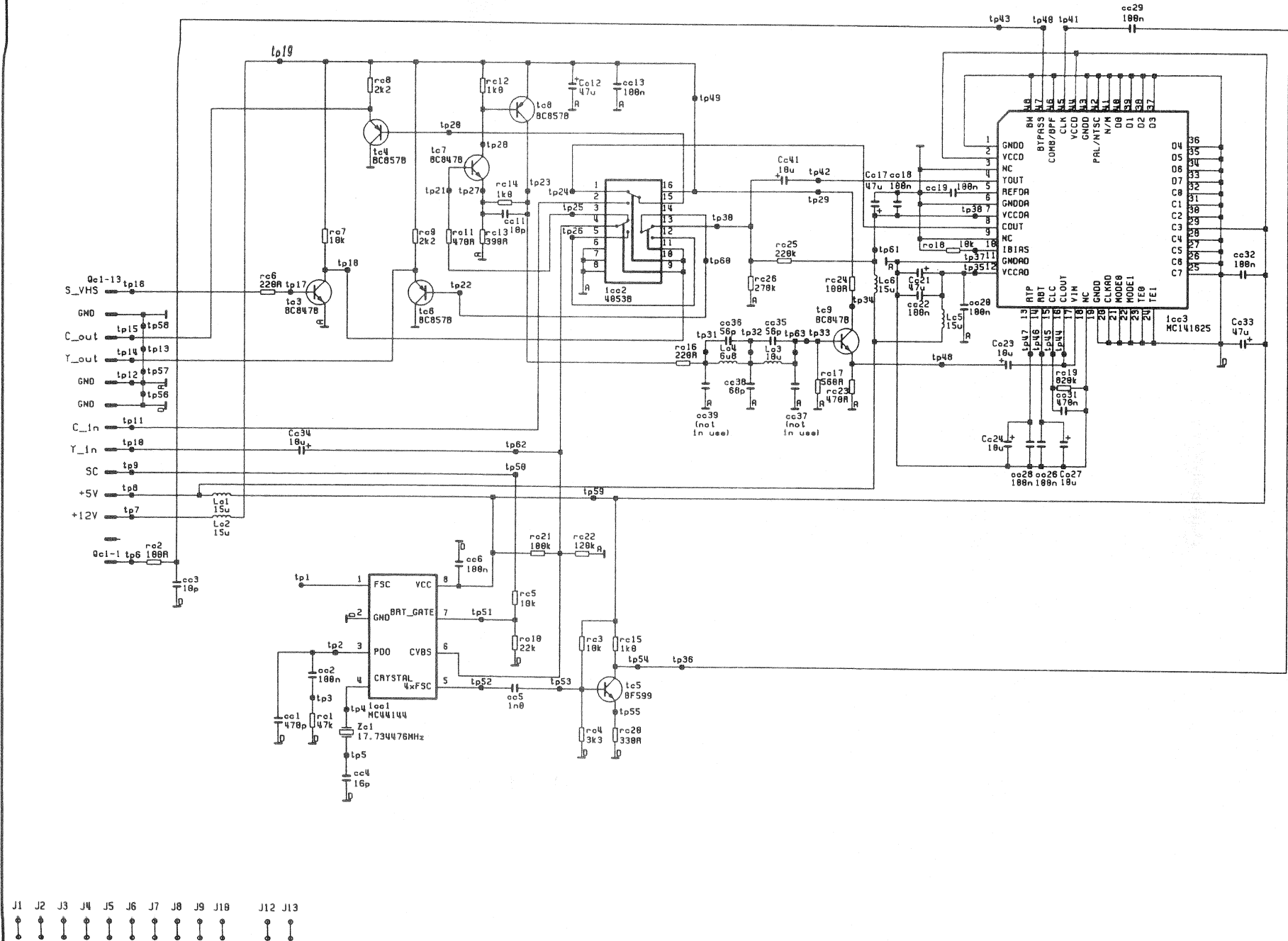


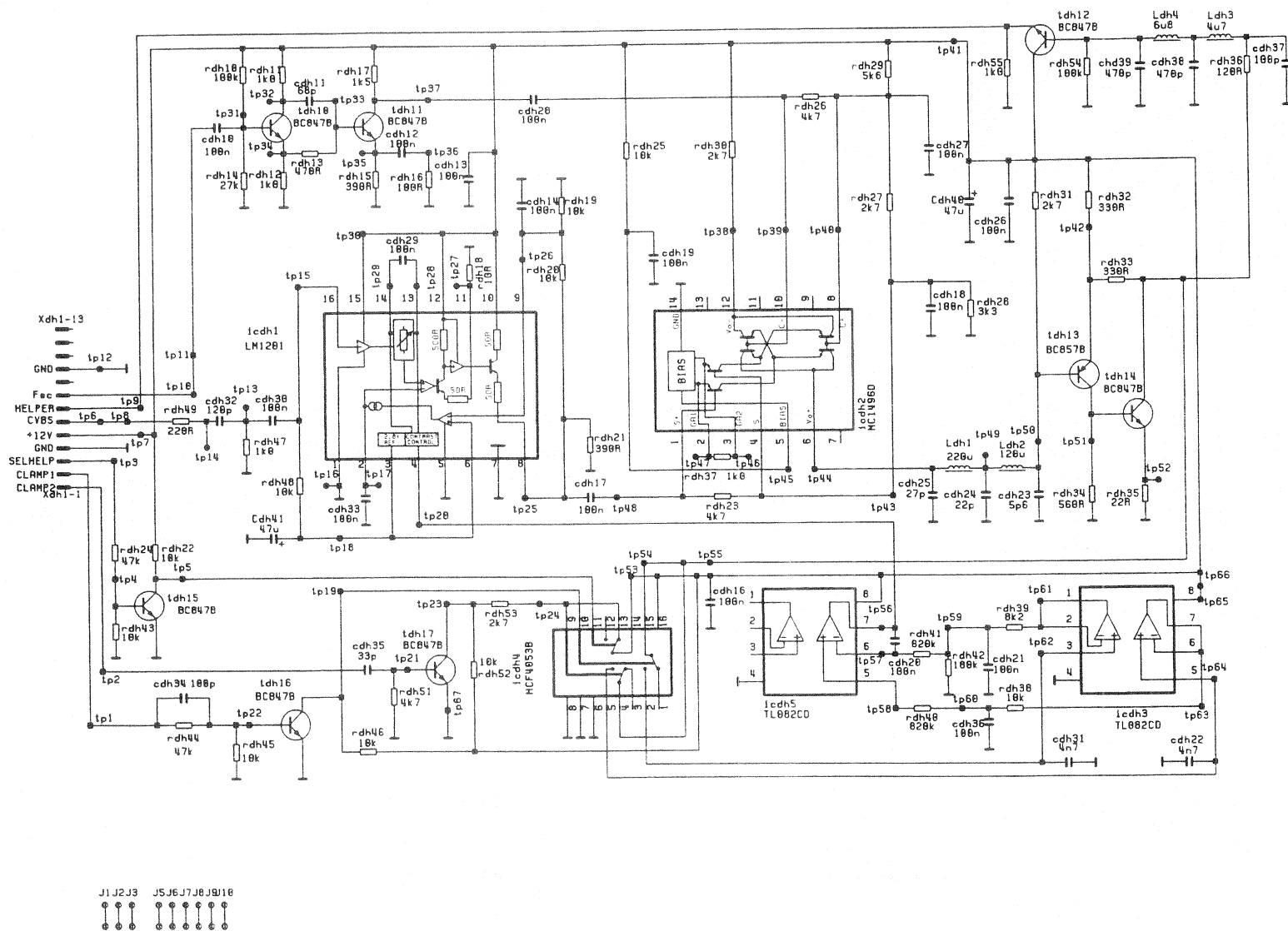
AR602 Surround module



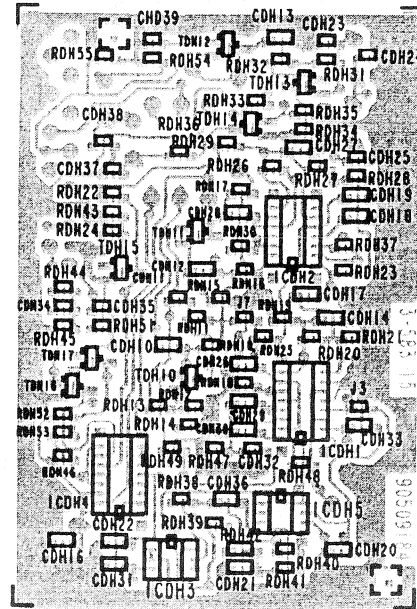
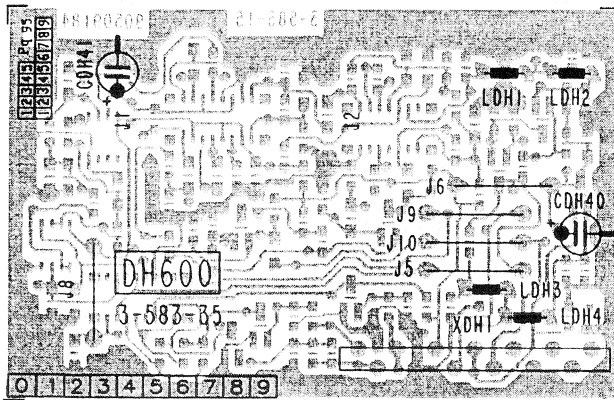
AV601 Subwoofer module



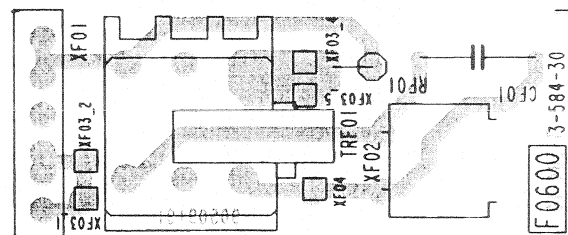




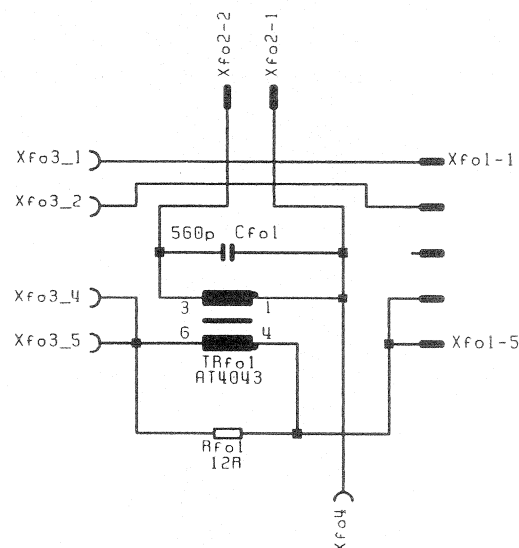
DH600 Helper module



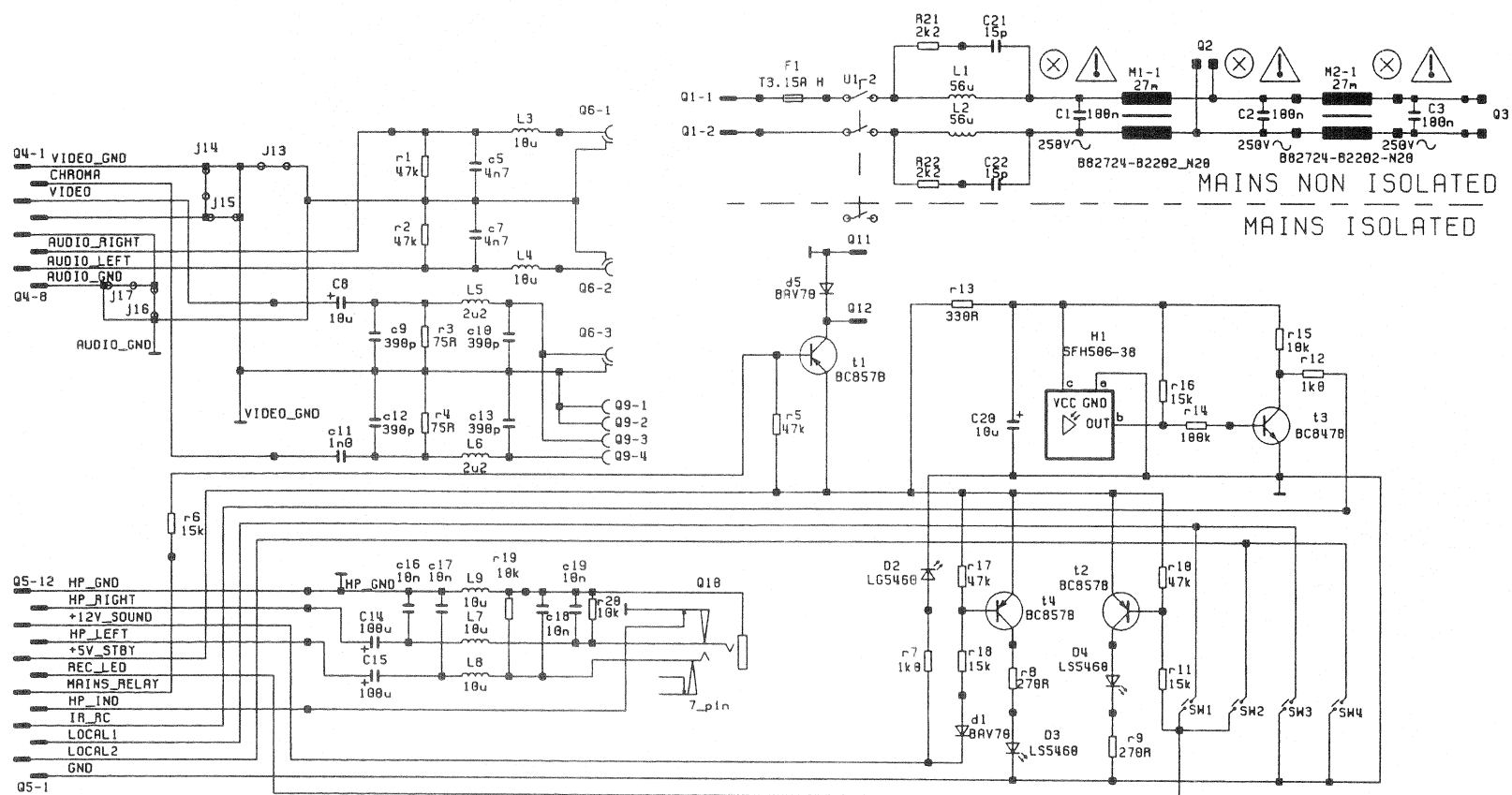
FO602/670 Dynamic Focus module



FO602/670 Dynamic Focus module



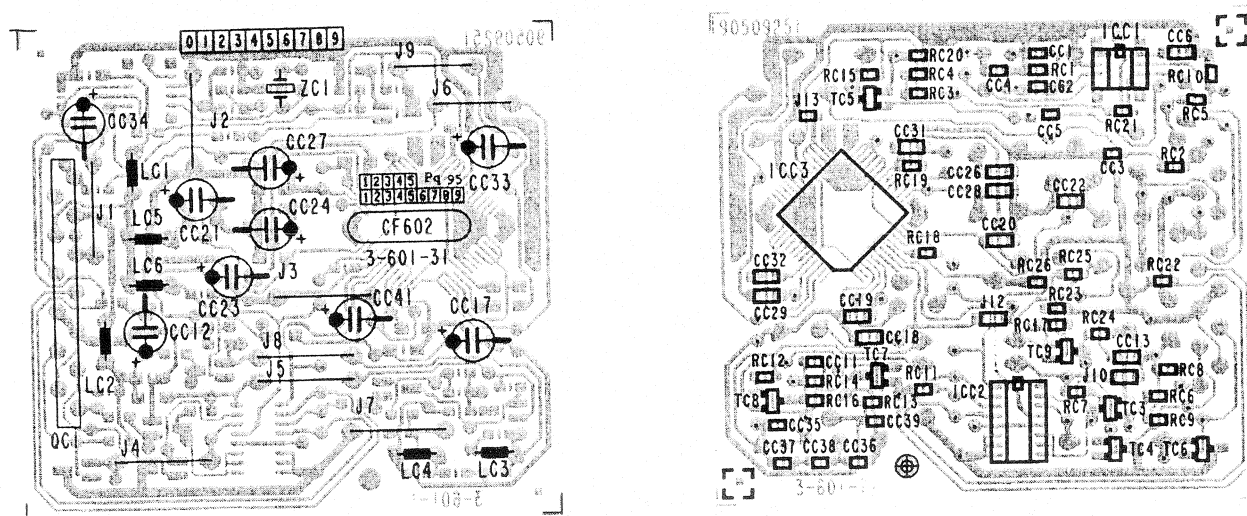




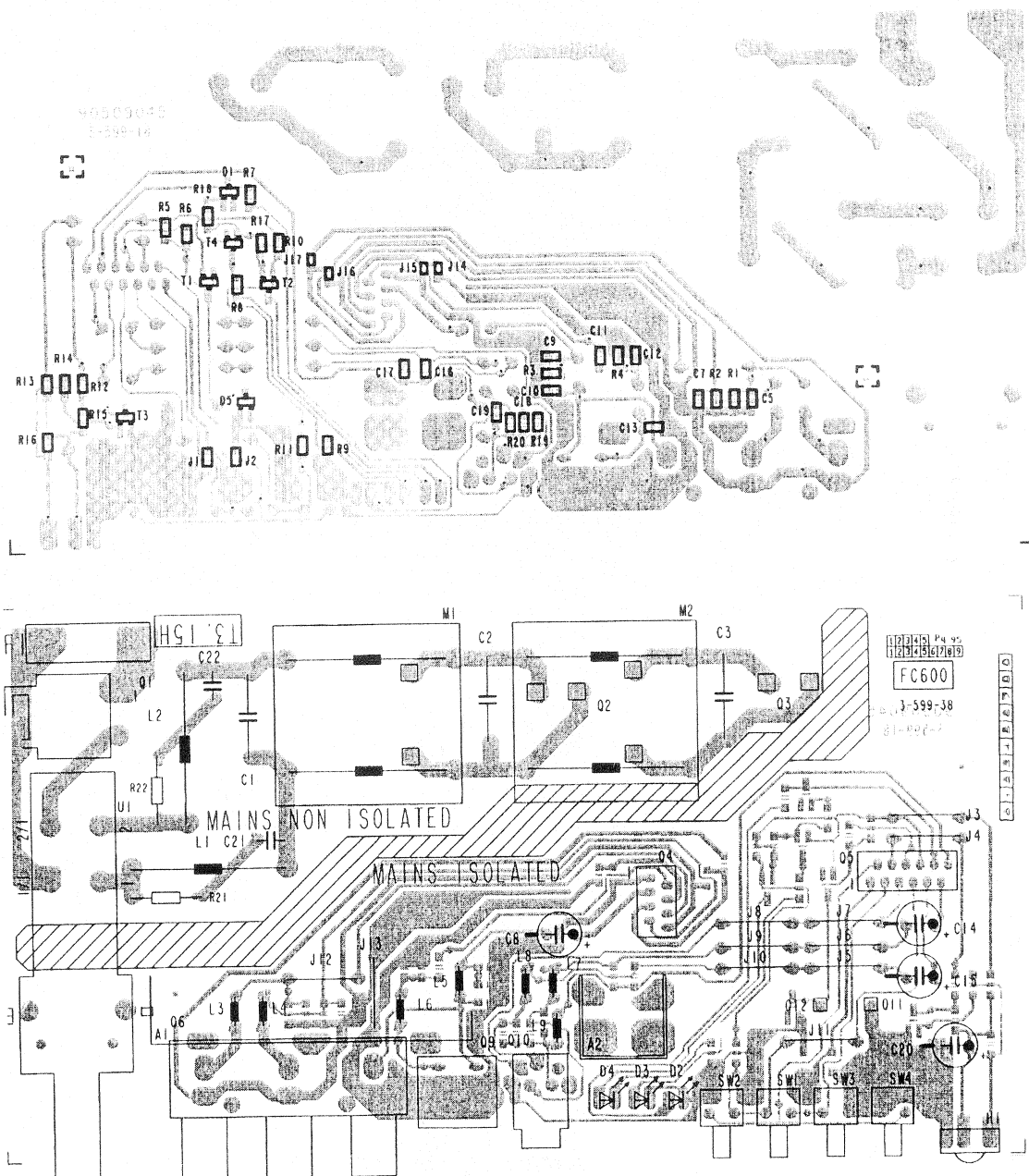
CAMERA_CONN_SHIELD A1
SUPPORT_PLATE A2

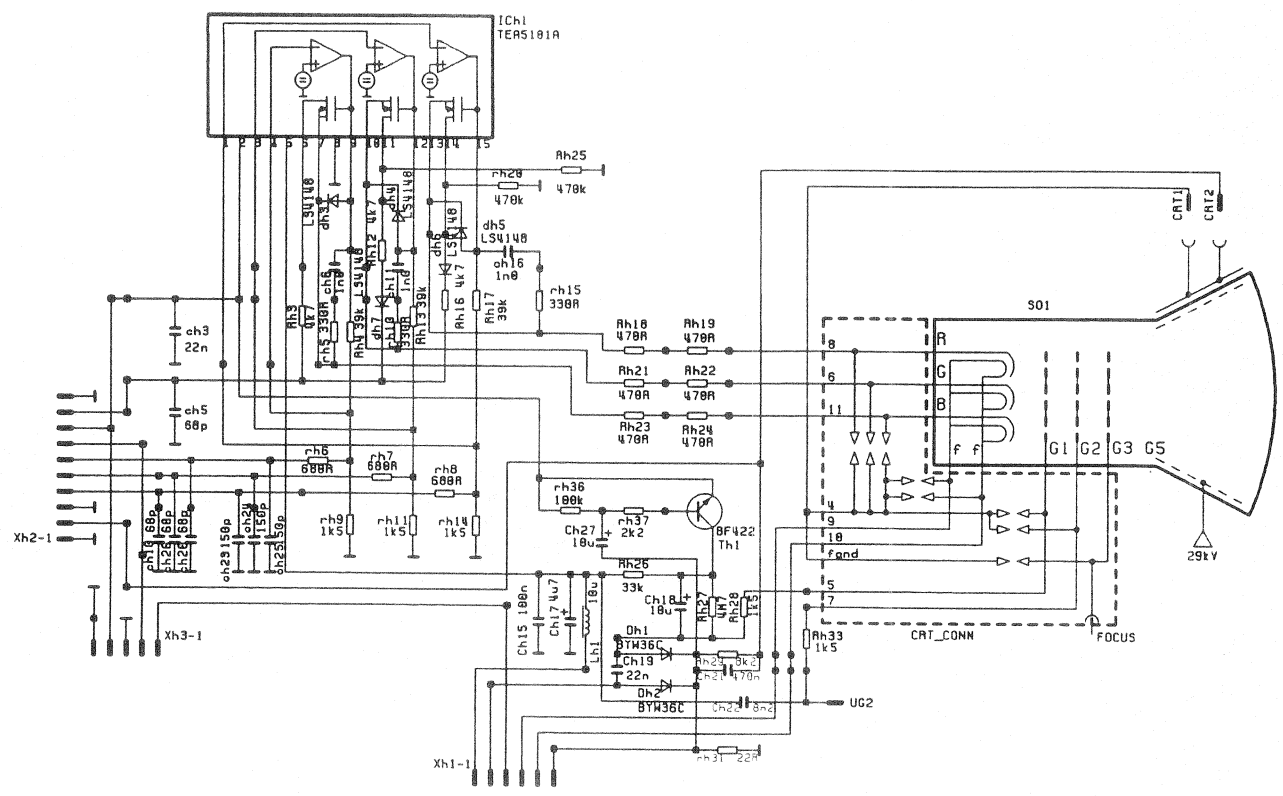
VIDEO_RIGHT
CAMERA_CONN_SHIELD A1
SUPPORT_PLATE A2

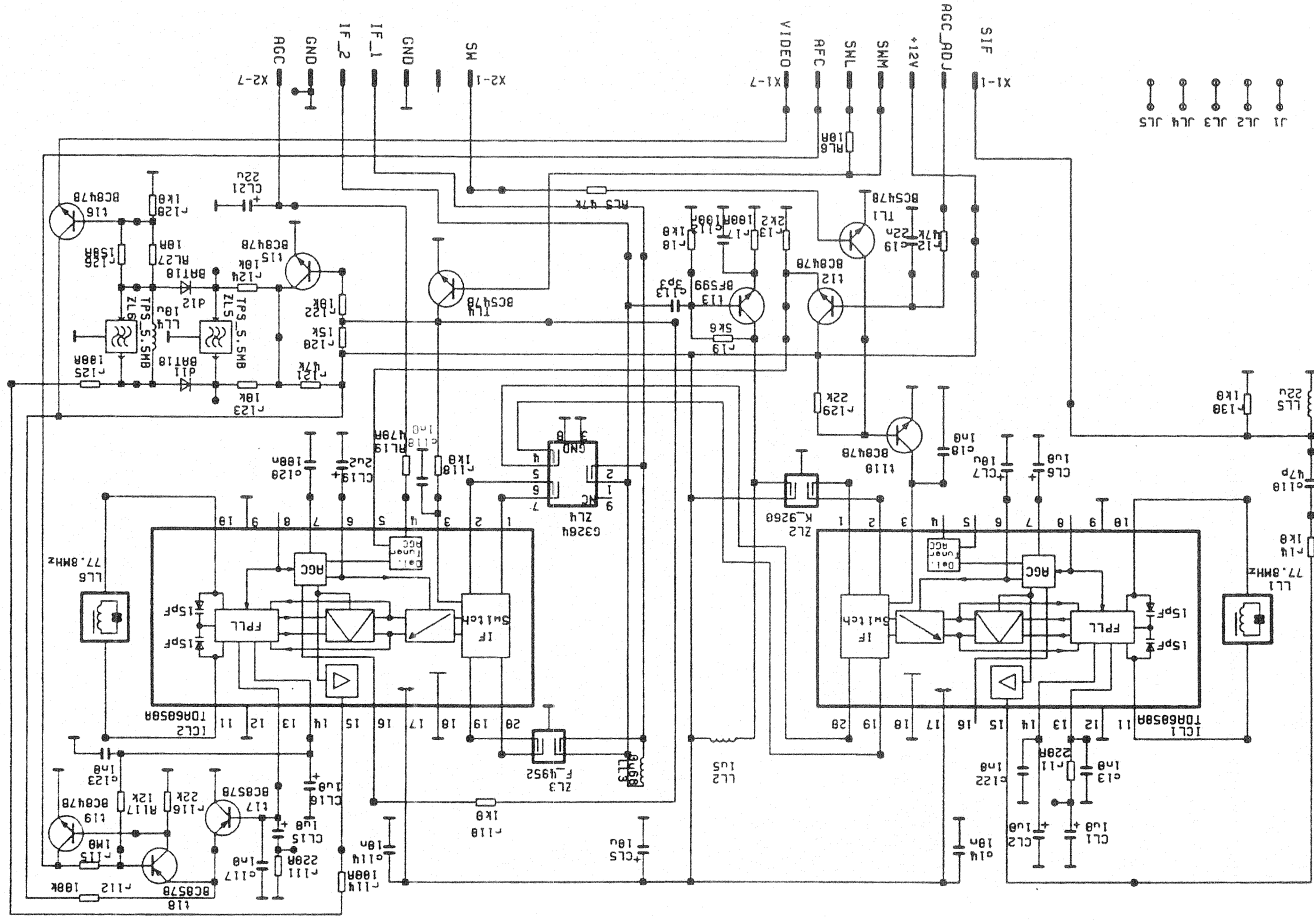
CF602 Combfilter module



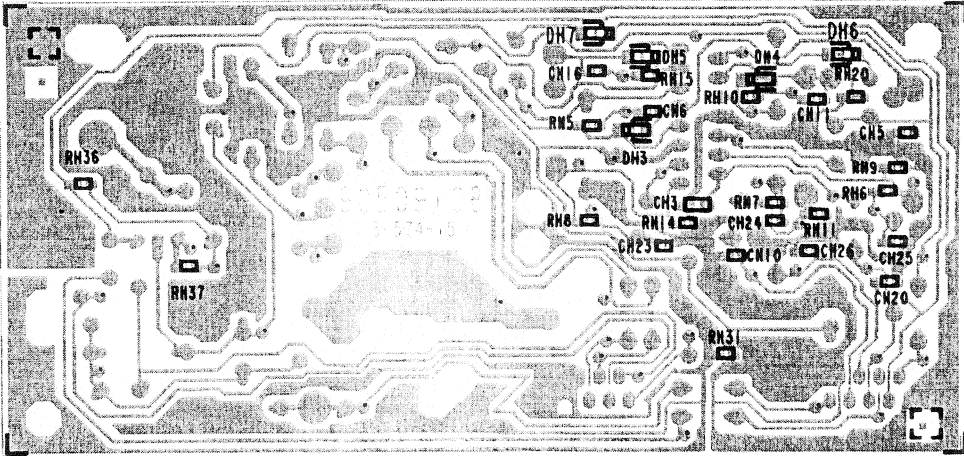
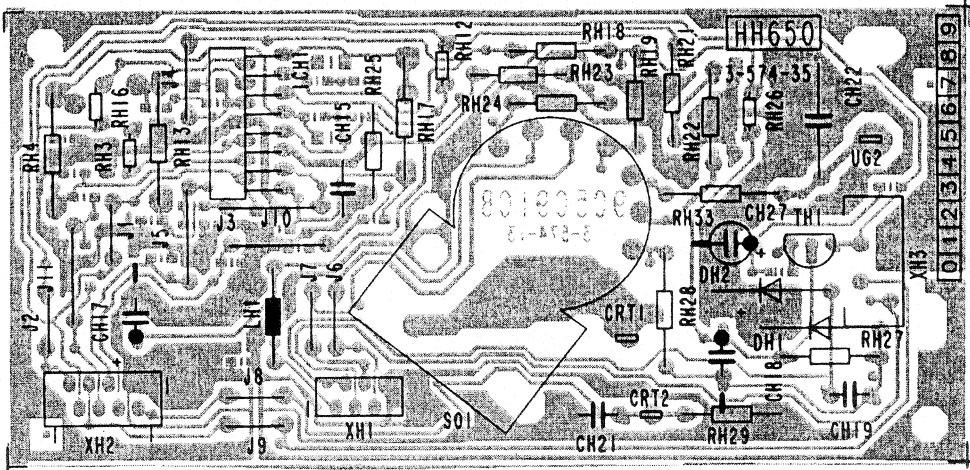
FC600 Control module



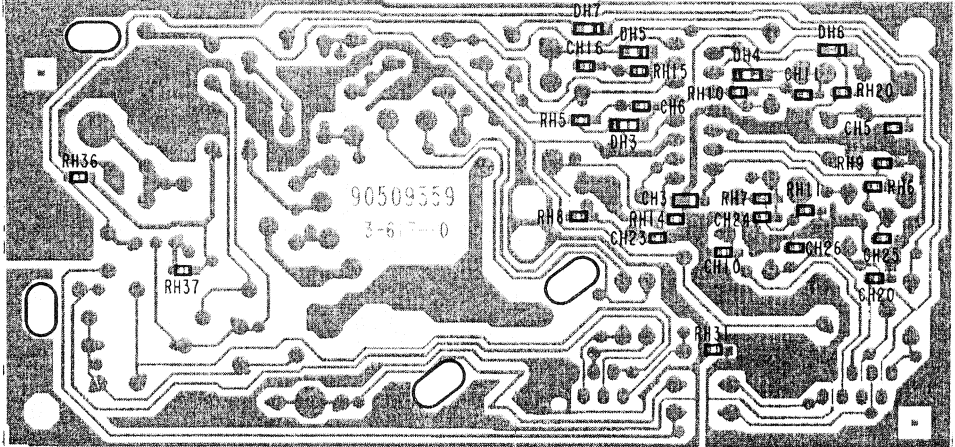
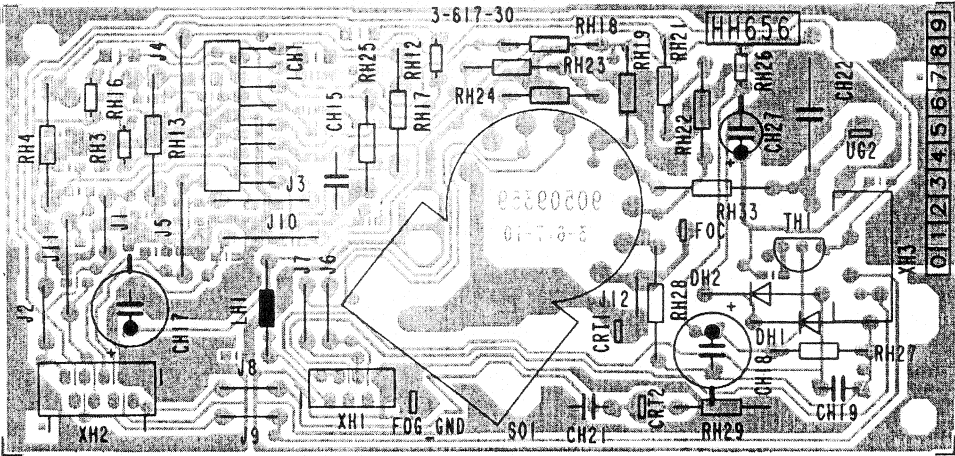




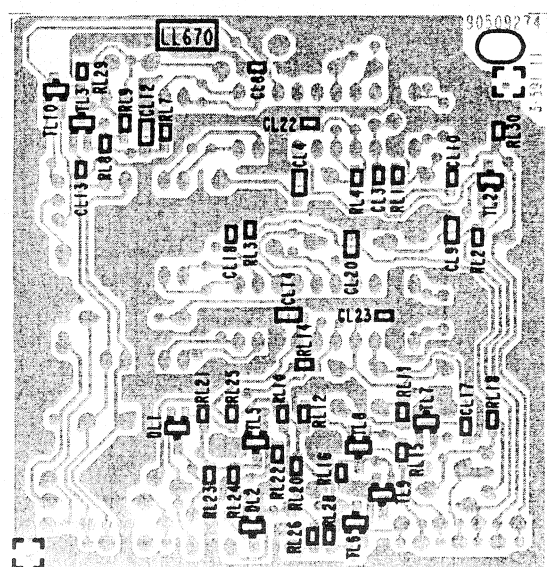
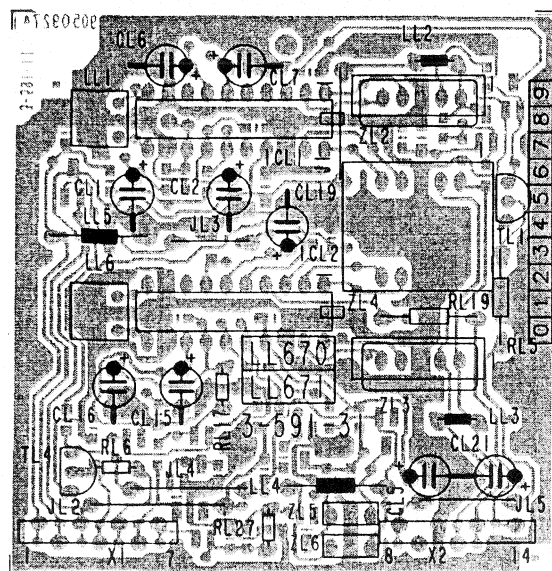
HH653/655 CRT-module



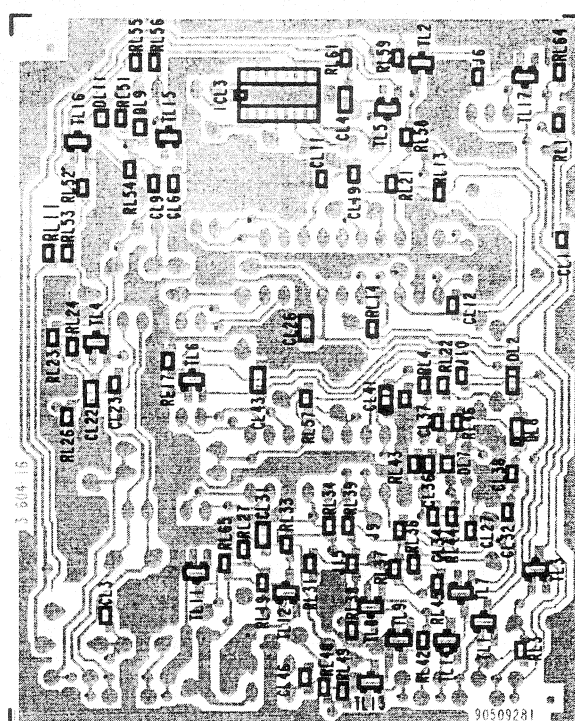
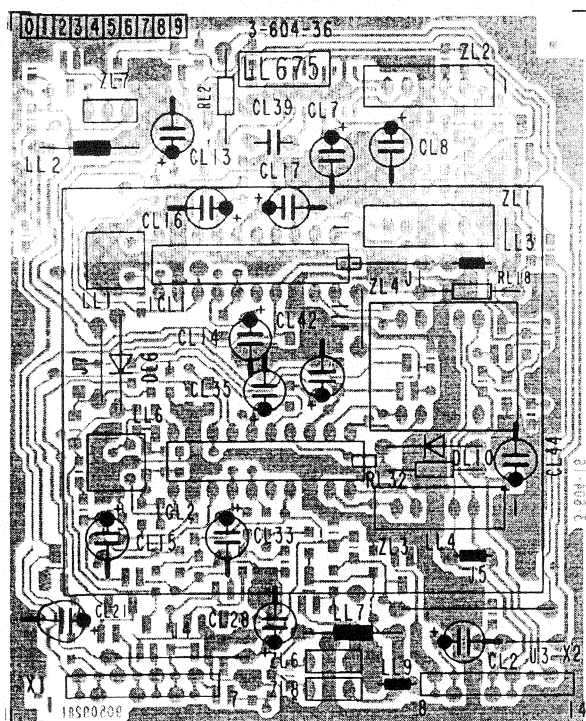
HH656 CRT-module

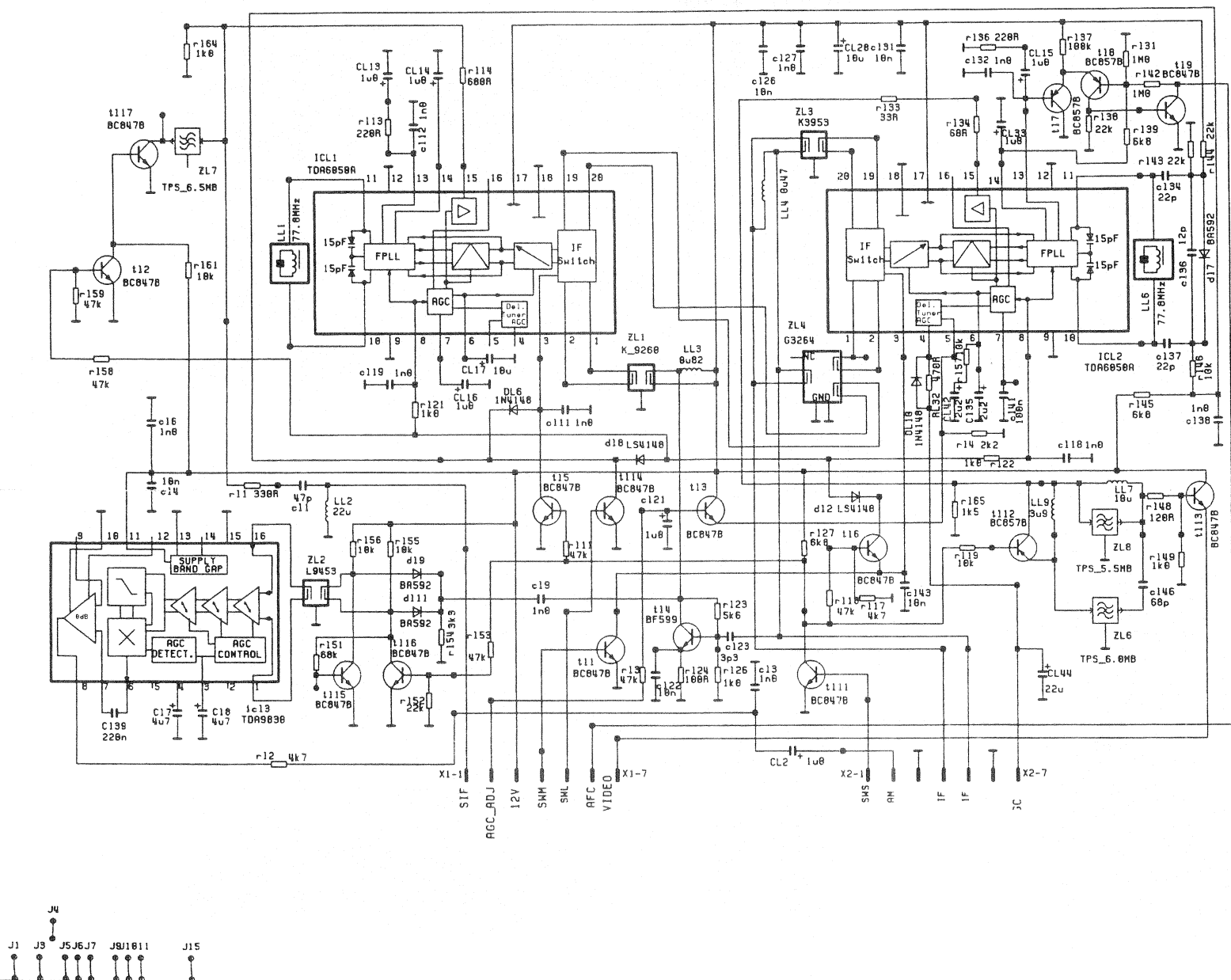


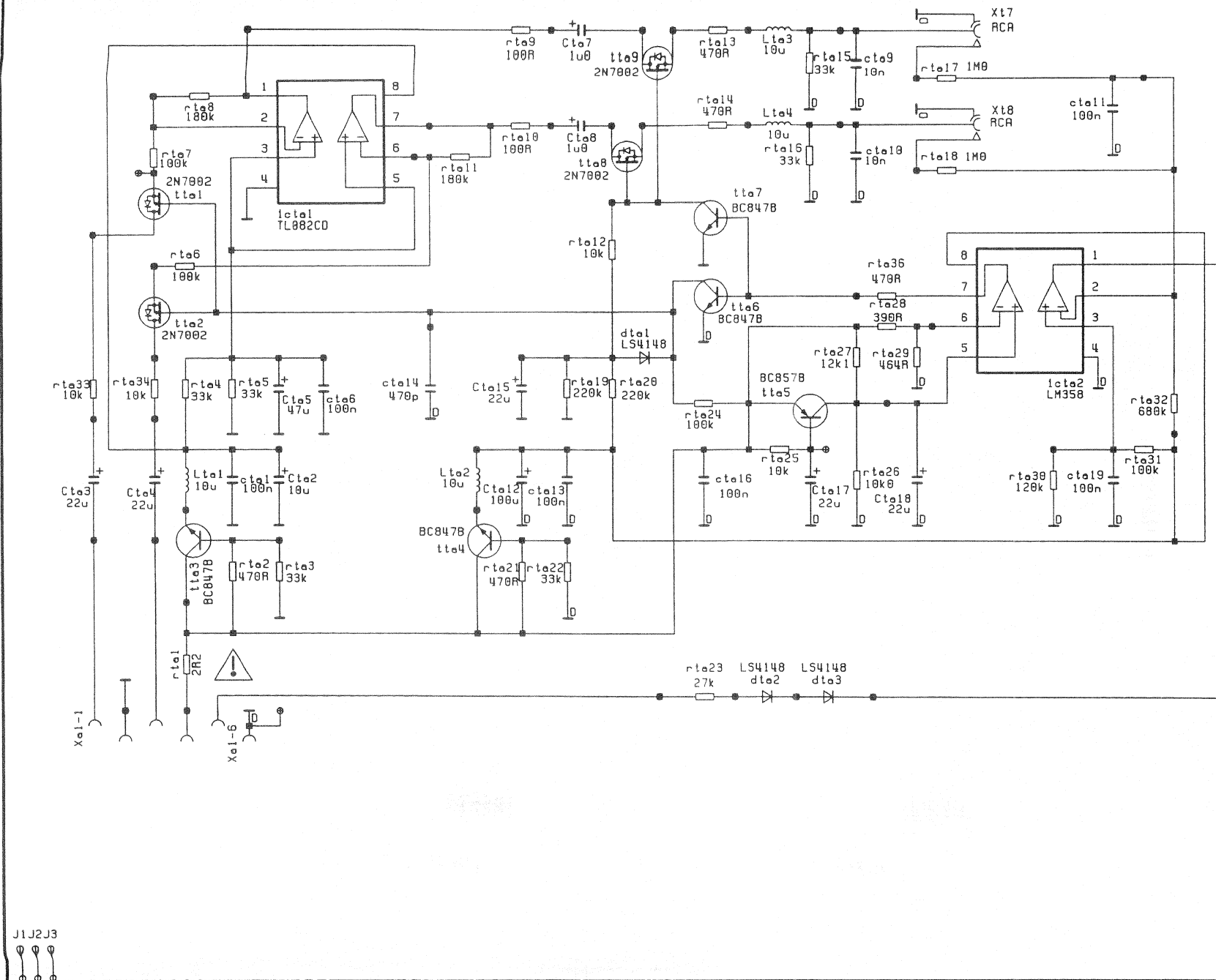
LL670/671 IF-module



LL675 IF-module

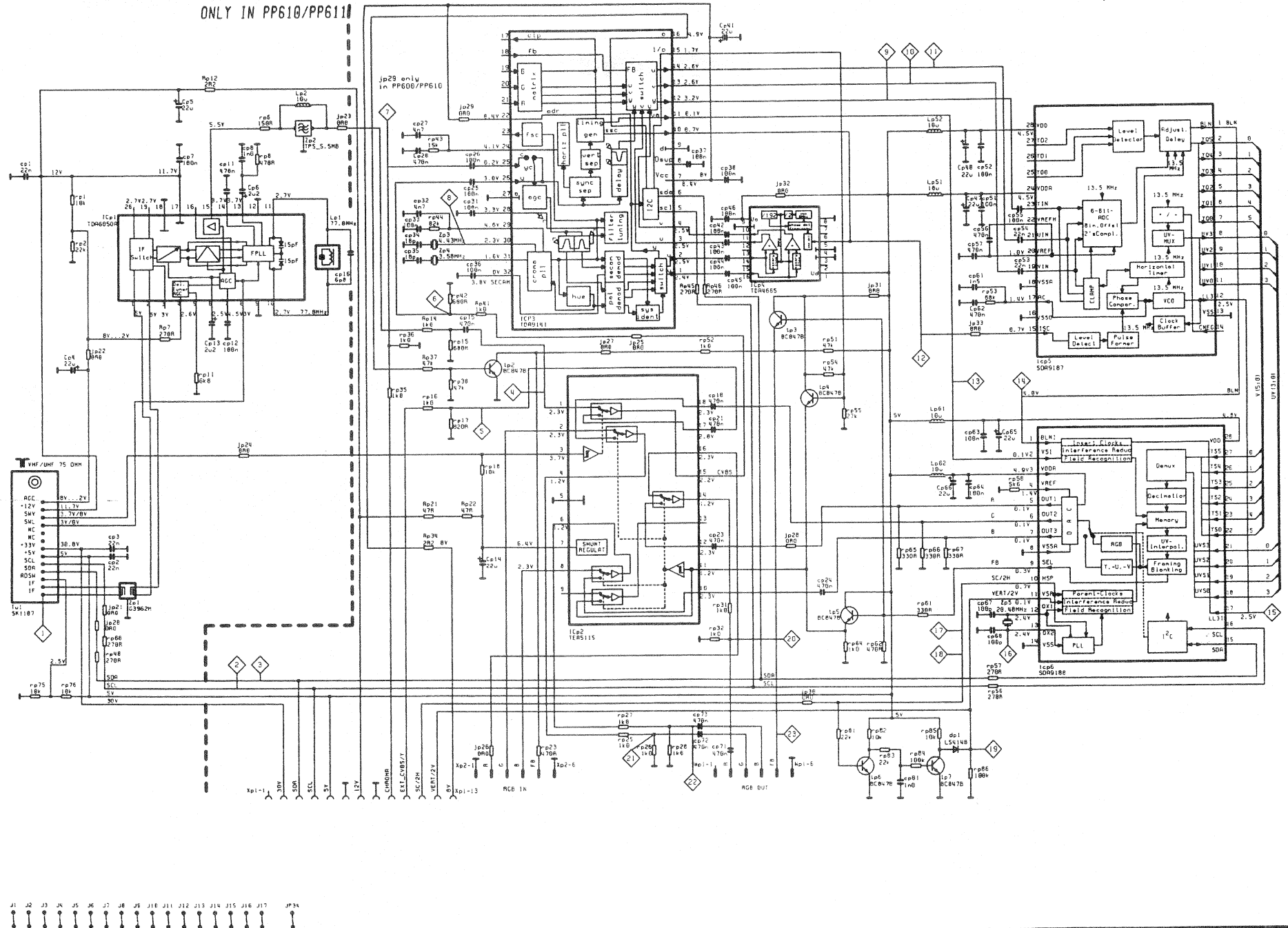




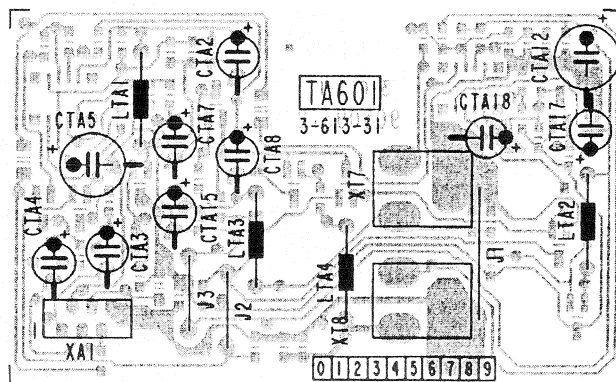
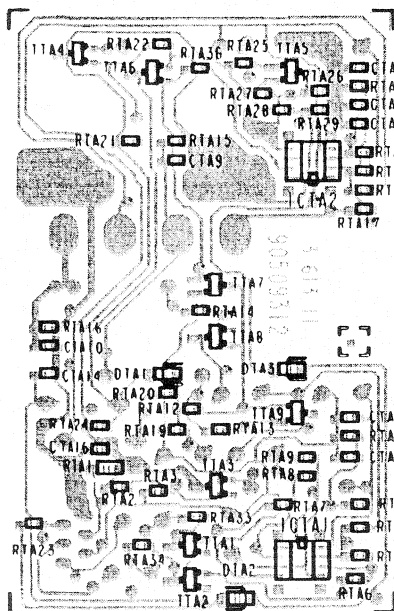


J1J2J3

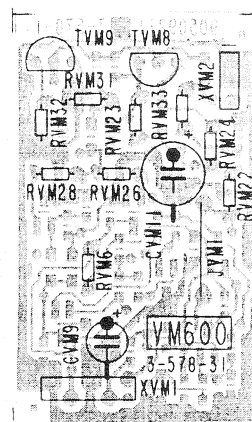
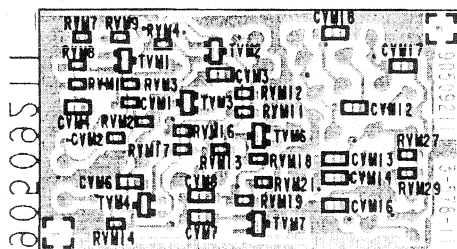
ONLY IN PP610/PP611



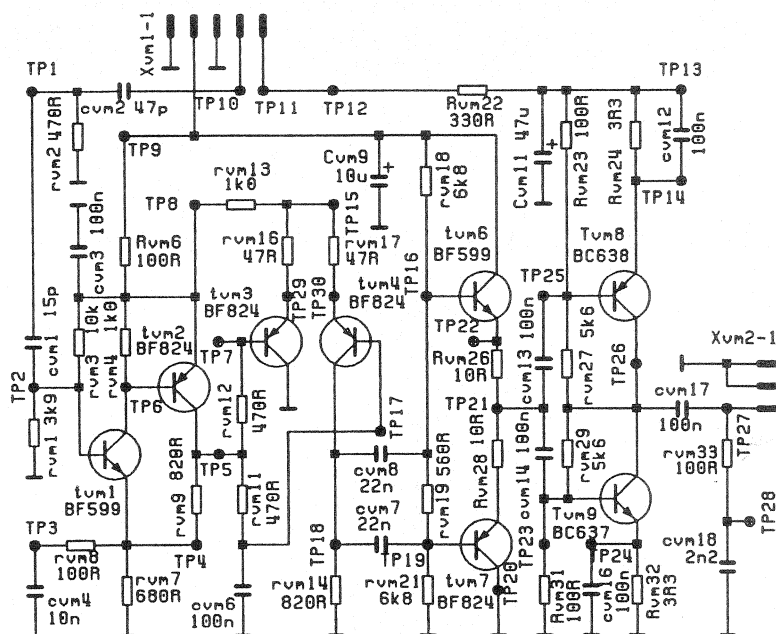
TA601 AUX-module



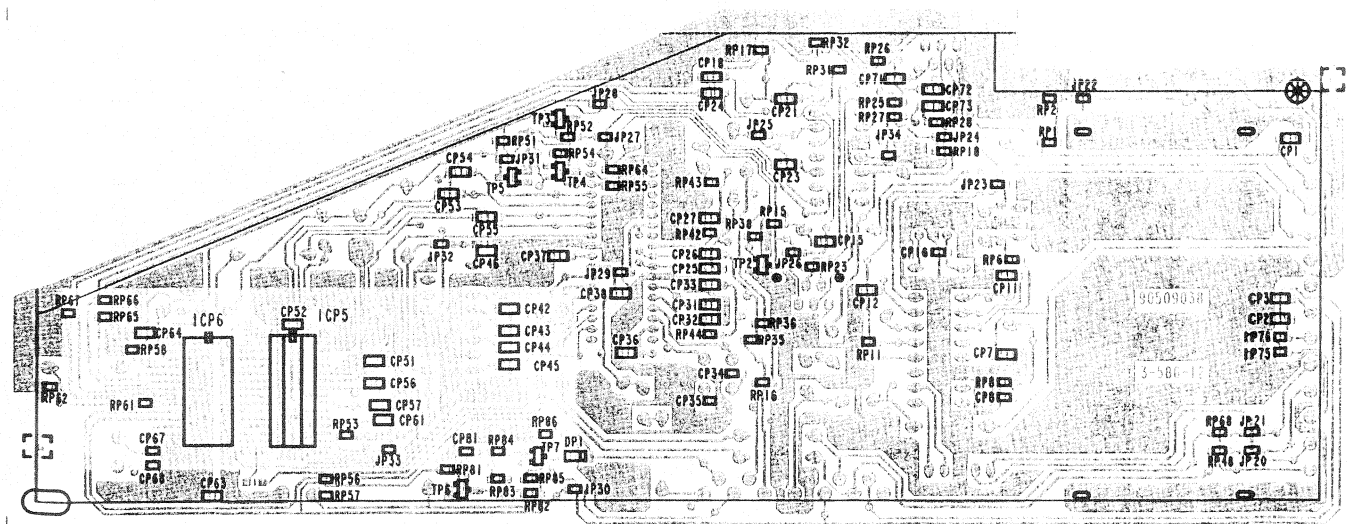
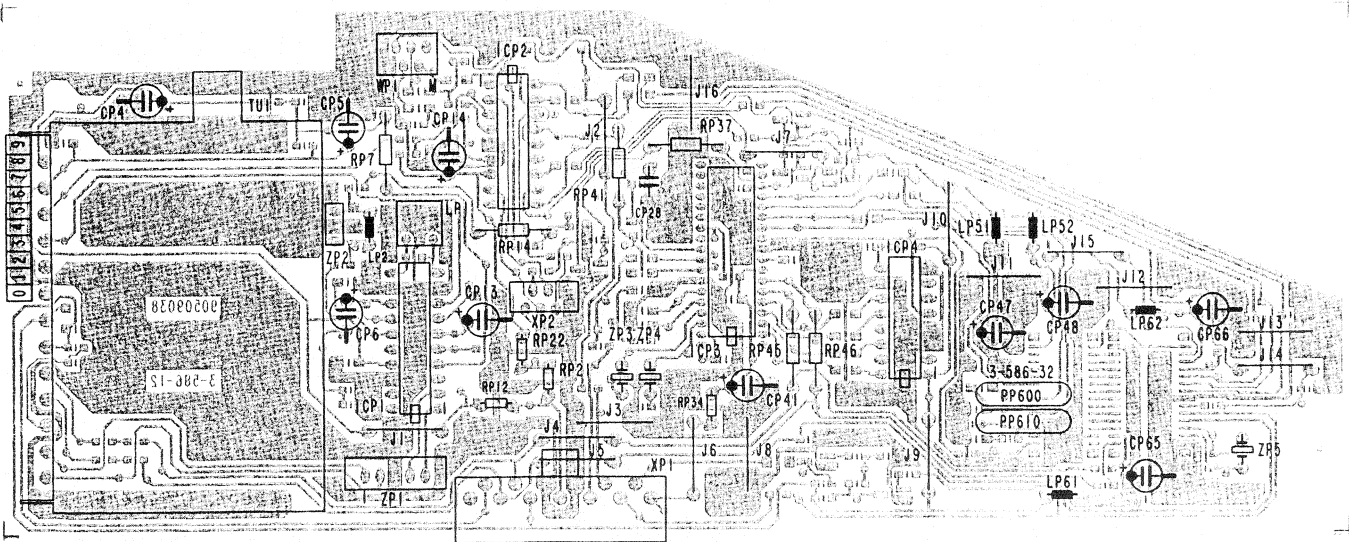
VM601/602/604 SVM-module



VM601/602/604 SVM-module



PP600 PIP-module



Spare parts
Reservdelar

Ersatzteile
Parti di ricambio

Pieces de rechange

⚠ Safety components in accordance with existing safety regulations. These components must be replaced only with original parts.

⚠ Sicherheitsbauteil im Sinn der Sherheitsbestimmung. Diese Teile dürfen nur durch Originalteile ersetzt werden.

⚠ Skyddskomponenter. Dessa komponenter får endast ersättas med original reservdelar.

⚠ Composant de sécurité conformément aux réglementations de sécurité. Ces composants doivent être uniquement remplacés par des pièces d'origines.

⚠ Componenti di sicurezza ai sensi del regolamento di sicurezza. Queste componenti devono venir sostituite unicamente con parti originali.

Main board

Item	Description	Order no.	PG
POWER BLOCK			
RESISTORS			
			
FOC POT	59M K 2W0 Temic fo	31260002	0
CO 59(FP/135)	SMD 4K7 5% 0W25	31425629	1
PO 1	TRIM HOR 470R 20% 0W1	31230006	3
RK 1	CARF 47K 5% 0W25 FP	31630049	1
RK 1 Vi 32"	CARF RAD 100K 5% 0W25 FP	31630037	1
RK 2,14	CARF 100K 5% 0W25 FP	31630037	1
RK 3	CARF 47K 5% 0W25	31660026	1
RK 4	CARF 27K 5% 0W25	31660043	1
RK 5,6,7,8	CARF 5K6 5% 0W25 FP	31630028	1
RK 10	CARF 6K8 5% 0W25 FP	31630029	1
RK 11,12	CARF 10K 5% 0W25 FP	31630031	1
RK 13	FUS V 27R 5% 0W25	31860001	2
RK 15	FUS V 1R5 J 0W70	31840004	3
RK 16	FUS V 4R7 5% 0W25	31860002	2
RK 16 Vi 32"	T2.0A MINIATURE D=8,5	43770005	4
RK 17	METF 150K 1% 0W6	31440017	1
RK 19	CARF 1R5 5% 0W5 FP	31630014	2
RK 30	METOX 39R 5% 2W0	31430005	2
RK 40	SMD 100R 5% 0W1	31425852	1
RK 41,42	SMD 1K37 1% 0W25	31490028	1
RK 43	SMD 3K3 5% 0W1	31425829	1
RK 44	SMD 100K 5% 0W1	31425844	1
RK 44 Vi 32"	SMD 56K 5% 0W1 0805	31425842	1
RK 45,53	SMD 10K 5% 0W1	31425833	1
RK 46	CARF 1K0 5% 0W25	31660016	1
RK 47	SMD 330R 5% 0W1	31425857	1
RK 48	SMD 750R J 0W25	31425004	1
RK 49	METOX 1K0 5% 1W0	31430006	2
RK 50	SMD 47R J 0W25	31425607	1
RK 51	METOX 1R0 5% 1W5	31430007	3
RK 52	CARF 10R 5% 0W25 FP	31514513	1
RK 52 Vi 32"	CARF 10R 5% 0W25	31660005	1
RK 54	CARF 0R47 5% 0W25 FP	31514509	1
RK 54 Vi 32"	FUS 0R47 5% 0W5	31850004	2
RK 55	FUS 1K0 10% 1W0	31850003	3
RK 56,58	CARF 2R2 5% 0W25 FP	31514511	1
RK 57	CARF 33K 5% 0W25 FP	31630036	1
RK 57 Vi 32"	CARF RAD 4K7 5% 0W25 FP	31514522	1
RK 60 Vi 32"	470k 5% 0,25W	12121300	5
RK 61 Vi 32"	FUS 10R1 10% 0W4	31820003	2
RK 71	CARF 0R68 5% 0W25 FP	31630017	1
RO 1	CARF 6K8 5% 0W25 FP	31630029	1
RO 2	CARF 3K3 5% 0W25	31660019	1
RO 3	SMD 270R 5% 0W1	31425855	1
RO 4,8	METF 150K 1% 0W6	31440017	1
RO 6,7	METF 374K 1% 0W6	31440018	1
RO 10	SMD 4K32 1% 0W25	31490030	1
RO 11	SMD 24K 5% 0W25	31490031	1
RO 12	SMD 18K 5% 0W1	31425813	1

Item	Description	Order no.	PG
RO 13,14,15,23	CARF 12K 5% 0W25 FP	31630032	1
RO 16,17	WRLAC 1R5 5% 5W0	31360004	5
RO 18,19	SMD 560R 5% 0W1	31425818	1
RO 20	PTC Rs=24ohm	31940001	11
RO 21	COMP HV 10M 5% 0W5	31460001	3
RO 24	CARF 27R 5% 0W25	31660007	1
RO 25	METOX 47R 5% 2W0	31430008	2
RO 26	CARF 4K7 5% 0W25	31660031	1
RO 27	WRLAC 33K 10% 9W0	31350002	8
RO 28,29,38	METF 0R47 5% 0W6	31440019	1
RO 30,31	CARF 180K 5% 0W25 FP	31630039	1
RO 32	CARF 1K0 5% 0W25	31660016	1
RO 33,34	CARF 150R 5% 0W25	31660002	1
RO 35	METOX 220R 5% 4W0	31430004	4
RO 36	FUS 1 0R1 10% 0W4	31820003	2
RO 37,40	CARF 56R 5% 0W25 FP	31630046	1
RO 41	METF 100K 1% 0W6	31440014	1
RO 41 Vi 32"	METF 82K5 F 0W60	31440047	0
RO 42,43	METF 4K32 1% 0W6	31440026	1
RO 44	METF 3K01 1% 0W6	31440025	1
RO 45	METF 750R 1% 0W6	31440023	1
RO 46	SMD 100K 5% 0W1	31425844	1
RO 47	METF 1K47 1% 0W6	31440024	1
RO 51	SMD 4K7 5% 0W1	31425824	1
RO 52,54,22	SMD 10K 5% 0W1	31425833	1
RO 53,55	SMD 2K7 5% 0W1	31425821	1
RO 62	CARF 10K 5% 0W25	31660022	1
RO 63	SMD 22K 5% 0W1	31425837	1
RO 64	SMD 47K 5% 0W1	31425836	1
RO 65	CARF 47K 5% 0W25	31660026	1
RO 67	SMD 390R 5% 0W1	31425816	1
RO 71	METOX 2R7 5% 1W5	31440032	2
RO 71 Vi 32"	METOX 10R 5% 2W0	31430001	2
RO 72	FUS V 2R2 5% 0W25	31860003	2
RO 81	SMD 68K 5% 0W1	31425838	1
RO 82,83	SMD 15K 5% 0W1	31425835	1
RO 84,56,57	SMD 2K2 5% 0W1	31425828	1
RO 85	SMD 1K0 5% 0W1	31425820	1
RO 86	SMD 470R 5% 0W1	31425817	1
RO 87	FUS V 27R 5% 0W25	31860001	2
RS 1	SMD 1K8 5% 0W1	31425827	1
RS 1 Vi 32"	SMD 1K8 5% 0W1 0805	31425827	1
RS 2,3	METF 0R82 5% 0,4W	13100124	5
RS 3 Vi 32"	METF RAD 1R00 1% 0W6	31450007	1
RS 4,8	CARF 330R 5% 0,5W	12213706	5
RS 4,8 Vi 32"	CARF RAD 560R 5% 0W25 FP	31630047	1
RS 5	CARF 22R 5% 0W25	31660042	1
RS 6	FUS V 33R J 0W50	31850006	2
RS 7	CARF 27K 5% 0W25	31660043	1
RS 9	CARF 0R68 5% 0W25 FP	31630017	1
CAPACITORS			
			
CK 1	MKT 100N 10% 63V	33127106	2
CK 14	MKT 100N 10% 250V	33360003	3
CK 19,70,71	CER 330P 10% 500V	32780002	1
CK 20	CER 2N2 20% 500V	32780003	1
CK 21	ELYT 4U7 20% 250V	34610001	4
CK 30	MKT 4N7 10% 100V	33522106	3
CK 31	ELYT 47U 20% 250V	34610003	8
CK 41	CESMD 1N0 5% 50V	32125648	2
CK 42	ELYT 470u 16V	26024009	6
CK 50	MKP 15N 2,5% 100V	33460003	5
CK 51	MKP 1N0 5% 1K6V	33460028	4
CK 51 Vi 32"	MKP 1N5 5% 1K6V	33460010	6
CK 52	MKP 9N1 5% 1K6V	33460013	6
CK 52 Vi 32"	12n 3,5% 1600V FKP1	22201193	11
CK 53	MKP 27N 5% 400V	33240998	4
CK 53 Vi 32"	MKP 47N 3,5% 400V	33450036	0
CK 54	MKP 240N 5% 400V	33460001	7
CK 54 Vi 32"	MKP 1U0 J 250V	33240959	0
CK 55	MKP 120N 5% 400V	33241026	9
CK 55 Vi 32"	MKP 220N J 250V	33240834	0

Item	Description	Order no.	PG
CK 56	MKT 1U5 10% 63V	33120947	7
CK 57,40	ELYT 2U2 20% 160V	34260812	4
CK 57 Vi 32"	ELYT HV 4U7 20% 250V 11x18	34610001	4
CK 58	MKT 470N 10% 63V	33127123	3
CK 60 Vi 32"	MKP 680N 5% 160V	33460004	0
CK 61 Vi 32"	ELYT 100U 20% 35V 9x14	34510006	3
CK 63 Vi 32"	ELYT HR 1000U 20% 35V	34510010	10
CK 72	ELYT 100U 20% 35V	34510006	3
CK 73	CESMD 100P 5% 50V	32125515	1
CK 73 Vi 32"	CER SMD 1N5 2% 50V	32190025	3
CO 1	MKT 220N 10% 400V	33360002	4
CO 2	ELYT 2U2 20% 350V	34630001	5
CO 3,4	CER 2N2 20% 400VAC	32960001	4
CO 5,11,62	CESMD 100N 20% 50V	32790011	1
CO 6,7,8,9	CER 3N3 20% 1KV	32760001	2
CO 10	CESMD 100P 5% 50V	32125515	1
CO 12	CER 1N5 20% 400VAC	32960002	4
CO 13	MKP 6N8 5% 63V	33480007	2
CO 14	MKT 10N 5% 400V	33360006	2
CO 15,16,40,25	ELYT 1U0 20% 63V	34540022	2
CO 17	ELYT 100U 20% 25V	34540020	2
CO 18	MKP 5N6 5% 160V	33460018	3
CO 19,35,37,39,42,43,46,51,63,64	MKT 100N 10% 63V	33127106	2
CO 20	MKP 220P 5% 1K6V	33460009	4
CO 21	MKP 33N 5% 1KV	33460016	5
CO 22	ELYT 47U 20% 16V	34540019	2
CO 23	ELYT 220U 20% 385V	34260826	18
CO 24	CESMD 4N7 10% 50V	32790007	1
CO 31	MKP 330P 10% 1K6V	33460017	4
CO 32	MKT 100N 10% 250V	33360003	3
CO 33	ELYT 47U 20% 250V	34610003	8
CO 34,38,44,49	CER 330P 10% 500V	32780002	1
CO 36,73	ELYT 470U 20% 40V	34510014	7
CO 41	ELYT 1000U 20% 35V	34510013	8
CO 45,72,65,69	ELYT 10U 20% 63V	34540025	2
CO 47,48,52,54	ELYT 1000U 20% 16V	34510004	7
CO 59	ELYT 22U 20% 63V	34540026	1
CO 61	ELYT 4U7 20% 63V	34540024	2
CO 71	ELYT 1000U 20% 16V	34540015	6
CS 1	CESMD 100P 5% 50V	32125515	1
CS 2	MKT 470N 10% 63V	33127123	3
CS 3	CESMD 100N 20% 50V	32790011	1
CS 4	ELYT 1000U 20% 35V	34510010	10
CS 5	ELYT 47U 20% 50V	34540028	2
CS 6,7	MKT 10n 10% 63V	24030702	6
CS 8	MKT 100N 10% 63V	33127106	2
TRANSISTORS			
			
DO 17	TH MCR100-6 400V 0.8A	36100001	5
TK 1,2	PNP SMD BC858C 30V	36145423	2
TK 3	NPN PWR 2SD1406 60V 3A	36270009	5
TK 4	PNP SMD BC857B 45V	36145412	2
TK 5	PNP BC327A 60V 500mA	36220006	3
TK 6	TR S2000AF	JM0264	12
TO 1	N-FET PWR IRFBC40 600V	36370001	13
TO 12	PNP SMD BC857B 45V	36145412	2
TO 14	NPN BC337-25 45V 500mA	36421738	2
TO 2,5,6	NPN BC547B 45V 100mA	36220002	1
TO 4	N-FET SMD BUK483-60A	36380001	8
TO 7,9,11	NPN SMD BC847B 45V	36145312	2
TO 8	NPN PWR 2SD1406 60V 3A	36270009	5
DIODES			
			
DK 1	1N4148 75V 200mA	36420002	1
DK 3,6,8	RECT PWR 1N4937 600V	36575353	2
DK 4	RECT PWR BYW74 400V	36575418	2
DK 5	RECT PWR BY228 1K5V 5A	36575543	4
DK 7	RECT PWR BYW32 200V	36575413	4
DK 9 Vi 32"	RECT PWR 1N4937 600V 1.0A	36575353	2
DK 10 Vi 32"	1N4148 75V 200mA	36420002	1
DK 19	RECT PWR BYV26C 600V	36610005	4
DO 1,2,3,4	RECT PWR BY527 1K25V 2A	36610001	4
DO 5,8,10,9,19,20	1N4148 75V 200mA	36420002	1
DO 7,6	RECT PWR 1N4937 600V	36575353	2
DO 11	RECT BYT56K 800V 3.0A	36621552	5

Item	Description	Order no.
DO 12,13	RECT BYW98 200V 3A 7A	36575470
DO 14,16	SCHOTTKY SB545S 45V	36420003
DO 18	SMD BA'99 70V 150mA	36490003
DS 1	RECT PWR 1N4007 1KV 1A	36571141
ZENERS		
		
DZK 4	Z SMD BZX84C 9V1 5%	36780007
DZK 4 Vi 32"	Z SMD BZX84B 12V 2%	36780008
DZK 5 Vi 32"	Z BZX79C 15 5% 400mW	41003169
DZO 1	Z SMD BZX84C 8V2 5%	36780003
DZO 3	Z SMD BZX84C 8V2 5%	36780003
ZDK 1	Z BZX83C 8V2 5%	36770003
ZDK 2	Z BZX83B 30V 2%	36770005
ZDK 3	Z SMD BZX84C 2V4 5%	36780005
ZDO 2	Z BZX85C 13V 5% 1W3	36770004
INTEGRATED CIRCUITS		
		
ICO 1	PWR CONT TDA4605	37661430
ICO 2	OPTO COUPL TC0T1101G	36950003
ICO 3	V-REG PQ12RH11 12V 1.5A	37460007
ICO 4	V-REG LM2940CT 5V 1A	37681840
ICO 6	V-REG PQ05RH11 5V 1.5A	37460008
ICO 7,8	VREF TL431CLP	37410012
ICS 1	DEFL TDA8351-N3 SIL9	37450004
FUSES		
		
FO 1	F1,6A MINIATURE D=8,5	43770002
FO 2,3,4	T4,0A MINIATURE D=8,5	43770003
TRANSFORMERS		
		
TRK 1	DST TRAF0 Eldor 1182.9006A	45360013
TRK 1 Vi 32"	DST TRAF0 Eldor 1182.9009	45360027
TRK 2	TRAF0	45231187
TRO 1	MAINS TRAF0 FM3602-B	45320015
COILS		
		
LK 30	82uH 5% 1A 2R d=10mm	45570936
LK 31	280uH FJ1311	45610004
LK 51	490uH 5% 3.3A East/W	45380006
LK 52	LIN COIL 46uH	45161207
LK 52 Vi 32"	LIN COIL 35uH Vogt 5920903	45161219
LK 53 Vi 32"	14R/STRA DRM06309020	45610016
LK 70	SMD 9,8x3,2mm	46541525
LO 1	4.7uH K 620mA	45620008
LO 2,5,6	EMI SUPPRES BEAD 3.5x9	45620007
LO 3,4	8uH FJ0149	45610001
OTHERS		
		
DK 4,5	COOLING PLATE	65247305
DO 11	DI HEATSINK -2	81402597
DO 12,13	DI HEATSINK -2	81402596
TK 3,6	HEATSINK 2 100Hz	81403739
TK 3,6	TRANSISTOR HOLDER	81403207
TO 1	HEATSINK 1 100/50Hz	81403722
TO 1	ISOLATOR TO-220	49000085
TO 1	TRANSISTOR HOLDER	81403207
TO 8,1CS1,1CO3,6	ADD. HEATSINK 3 100/50Hz	81403904
TO 8,1CS1,1CO3,6	HEATSINK 3 100/50Hz	81403747
TO 8,1CS1,1CO3,6	TRANSISTOR HOLDER	81403207
XK 1	CONNECTOR HEADER 6-P	41710002
XK 2	ROW CONNECTOR 3-P	41710007
XO 1	ROW CONNECTOR 4-P	73190604
XO 2	ROW CONNECTOR 2-P	73184750
XS 1	ROW CONNECTOR 3-P	73190603
XS 2	ROW CONNECTOR 4-P	73190604
	BLADE CONNECTOR 2.8MM	41930001
	FASTENING 3mm FOCUS	54041366
	FASTENING 4mm ANODE	54041417
	ANODE CABLE ELD	96008868
	SCREEN CABLE 460mm	96010141
	ELDOR-DST CABLE 260MM	96010143
	FOCUS CABLE 410mm	96010152

Item	Description	Order no.	PG
RF-BLOCK			
RESISTORS 			
CA 36(FP/19)	CARF 10R 5% 0W25 FP	31514513	1
DZT 2	SMD 0R 5% 0W1	31425802	1
JR 146,178,248	SMD 0R 5% 0W1	31425802	1
<i>JR 79,91,92,93,94</i>			
96,174,211,229,	SMD 0R 5% 0W1	31425802	1
RA 1,9	SMD 1R0 5% 0W25	31490060	1
RA 2,7	SMD 1K5 5% 0W1	31425826	1
RA 3,8	SMD 33R 5% 0W1	31425808	1
RA 4,6	SMD 6K8 5% 0W1	31425831	1
RA 13,14,15,16,17,			
48,49,12	SMD 33K 5% 0W1	31425840	1
RA 18	METOX 2R2 5% 4W0	31440010	4
RA 19,21,42,46	SMD 4K7 5% 0W1	31425824	1
RA 20,25,33,39	SMD 68K 5% 0W1	31425838	1
RA 22,23	SMD 270R 5% 0W1	31425855	1
RA 24	SMD 1K0 5% 0W1	31425820	1
RA 26,27,28,29,30,			
44,45,11	SMD 100R 5% 0W1	31425852	1
RA 31	CARF 180R 5% 0W25 FP	31630026	1
RA 32,38,47	SMD 10K 5% 0W1	31425833	1
RA 34,41	CARF 47R 5% 0W25 FP	31514525	1
RA 36,37	SMD 5K6 5% 0W1	31425825	1
RA 43	SMD 150K 5% 0W1	31425846	1
RA 51,52,53,54,56,57	SMD 1M0 5% 0W1	31425801	1
RD 1	SMD 15K 5% 0W1	31425835	1
RD 2	SMD 82K 5% 0W25	31425642	1
RD 3,4	SMD 270R 5% 0W1	31425855	1
RD 7	SMD 330R 5% 0W1	31425857	1
RD 11,12	SMD 10K 5% 0W1	31425833	1
RD 13,14	SMD 1K0 5% 0W1	31425820	1
RF 2,33,34,20	SMD 1K0 5% 0W1	31425820	1
RF 3	SMD 2K2 5% 0W1	31425828	1
RF 4,5,21,28,29,			
30,38	SMD 10K 5% 0W1	31425833	1
RF 6,7	SMD 270R 5% 0W1	31425855	1
RF 8,11,51,32	SMD 4K7 5% 0W1	31425824	1
RF 9,12,27,36	SMD 100R 5% 0W1	31425852	1
RF 16,24,26	CARF 270R 5% 0W25	31660011	1
RF 17,18,19	SMD 220R 5% 0W1	31425815	1
RF 22,23	CARF 1K0 5% 0W25	31660016	1
RF 25	CARF 1K0 5% 0W25	31660016	1
RF 31	SMD 12K 5% 0W1	31425834	1
RF 37	SMD 18K 5% 0W1	31425813	1
RF 39	SMD 100K 5% 0W1	31425844	1
RF 40,41	SMD 470R 5% 0W1	31425817	1
RG 3	SMD 4K7 5% 0W1	31425824	1
RG 61	SMD 1K0 5% 0W1	31425820	1
RQ 1	SMD 15K 5% 0W1	31425835	1
RQ 2,13,17,18,21,28,			
29,31,32,69,76,58	SMD 470R 5% 0W1	31425817	1
RQ 4	SMD 22K 5% 0W1	31425837	1
RQ 6,7,44,46,47,77,			
78,83	SMD 220R 5% 0W1	31425815	1
RQ 8,50,68,72,73,79	SMD 47K 5% 0W1	31425836	1
RQ 9,11,23,27,33,			
36,43	SMD 75R 5% 0W1	31425861	1
RQ 10,24,74	SMD 68R 5% 0W1	31425876	2
RQ 12,37	CARF 15K 5% 0W25 FP	31630033	1
RQ 14,16,19,22,38,			
39,41,42	SMD 100K 5% 0W1	31425844	1
RQ 26,49	SMD 330R 5% 0W1	31425857	1
RQ 48	FUS 10R1 10% 0W4	31820003	2
RQ 51,62	CARF 1K0 5% 0W25 FP	31514519	1
RQ 52,53	SMD 270R 5% 0W1	31425855	1
RQ 54	CARF 47R 5% 0W25	31660009	1
RQ 56,57	CARF 220R 5% 0W25	31660036	1
RQ 59	SMD 560R 5% 0W1	31425818	1
RQ 60	SMD 820R 5% 0W1	31425819	1
RQ 67,84	SMD 1K0 5% 0W1	31425820	1
RQ 66	SMD 4K7 5% 0W1	31425824	1
RQ 70	SMD 330K 5% 0W1	31425873	1
RQ 71	SMD 1M0 5% 0W1	31425801	1
RQ 81	SMD 10K 5% 0W1	31425833	1

Item	Description	Order no.	PG
RQ 82	SMD 150R 5% 0W1	31425812	1
RQ 85,86,87	SMD 0R 5% 0W1	31425802	1
RR 1	SMD 10K 5% 0W1	31425833	1
RR 2,	SMD 1K0 5% 0W1	31425820	1
RR 3,4,6	SMD 3K9 5% 0W1	31425830	1
RR 8	SMD 470R 5% 0W1	31425817	1
RR 10	SMD 2R2 5% 0W1	31490066	1
RT 1,3	SMD 22R 5% 0W1	31425849	1
RT 4	SMD 33R 5% 0W1	31425808	1
RT 7	SMD 0R 5% 0W1	31425802	1
RT 8	SMD 39R 5% 0W1	31425814	1
RT 10	SMD 1K0 5% 0W1	31425820	1
RT 11,15,31	SMD 3K9 5% 0W1	31425830	1
RT 12	SMD 56K 5% 0W1	31425842	1
RT 13,14,16	SMD 100R 5% 0W1	31425852	1
RT 17,18	CARF 270R 5% 0W25	31660011	1
RT 19,20	SMD 6K8 5% 0W1	31425831	1
RT 21	CARF 33R 5% 0W25 FP	31630022	1
RT 22	CARF 10R 5% 0W25 FP	31514513	1
RT 23	SMD 15K 5% 0W1	31425835	1
RT 24,27,26	CARF 1K0 5% 0W25	31660016	1
RT 25	SMD 220R 5% 0W1	31425815	1
RT 30	SMD 2K2 5% 0W1	31425828	1
RT 32	CARF 100K 5% 0W25 FP	31630037	1
RT 33,34	SMD 1K5 5% 0W1	31425826	1
CAPACITORS 			
(FP/83)	MKT 470N 10% 63V	33127123	3
CA 3	ELKO 470u 16V 10x13 R	25024009	6
CA 4,8,12,13,16,37,			
47,57,62,25,61	CESMD 100N 20% 50V	32790011	1
CA 6	ELYT 3300U 20% 35V	34510009	10
CA 7	ELYT 47U 20% 16V	34540019	2
CA 9,11	ELYT 1000U 20% 25V	34510015	5
CA 14,17,59	CESMD 10N 10% 50V	32535918	1
CA 18,29	ELYT 1U0 20% 63V	34540022	2
CA 19,21	ELYT 2U2 20% 63V	34540023	2
CA 26,22,23,24	CESMD 1N0 10% 50V	32536203	1
CA 27,28,71,72,69,70	CESMD 390P 5% 50V	32190012	1
CA 30,33,34	CESMD 47P 5% 50V	32125508	1
CA 31,32	CESMD 1p2 5% 50V	23070585	3
CA 35,39,40,42,43,50	MKT 330N 10% 63V	33127113	3
CA 38,58	ELYT 220U 20% 16V	34510003	3
CA 41,49,56,48,65,			
68,60	ELYT 10U 20% 63V	34540025	2
CA 44,45	CESMD 470P 5% 50V	32190013	1
CA 46	ELYT 3U3 20% 63V	34540029	1
CA 52,54,51	ELYT 22U 20% 35V	34540021	2
CA 53,1,2	ELYT 22U 20% 16V	34540009	2
CA 55	MKT 10n 10% 63V	24030702	6
CA 63,64	MKT 100N 10% 63V	33127106	2
CA 66,67	CESMD 100P 5% 50V	32125515	1
CD 11	MKT 470N 10% 63V	33127123	3
CD 12,16	CESMD 3N3 10% 50V	32535908	1
CD 13,19,21,22,24,			
26,27,28,29,31	CESMD 100N 20% 50V	32790011	1
CD 14	CESMD 22n 80/20% 50V	23069156	3
CD 17,18	CESMD 18P 5% 50V	32125520	1
CF 1,3,8,10,9	CESMD 100N 20% 50V	32790011	1
CF 2	ELYT 47U 20% 16V	34540019	2
CF 5,4	CESMD 100P 5% 50V	32125515	1
CF 6,7	CESMD 33P 5% 50V	32125507	1
CF 11,12	ELYT 10U 20% 63V	34540025	2
CQ 1	ELYT 10U 20% 63V	34540025	2
CQ 2,3,4,6,12,13	CESMD 390P 5% 50V	32190012	1
CQ 5	ELYT 100U 20% 25V	34540020	2
CQ 7,9,14,17	CESMD 330P 5% 50V	32125517	1
CQ 8,11,16,18,23,34,			
42,44	CESMD 10N 10% 50V	32535918	1
CQ 19,21,22,27,28,29	CESMD 100N 20% 50V	32790011	1
CQ 24,25,31,20	MKT 220N 10% 63V	33127108	3
CQ 26	ELYT 47U 20% 16V	34540019	2
CQ 30,45,46,47,41,39	CESMD 2N2 10% 50V	32535904	1
CQ 35	CESMD 47N 10% 50V	32790008	1
CQ 38	ELYT 10U 20% 63V	34540025	2
CQ 43	MKT 470N 10% 63V	33127123	3

Item	Description	Order no.	PG
CR 1,2	CESMD 33P 5% 50V	32125507	1
CR 3,4,6,7,11,13,			
14,15	CESMD 100N 20% 50V	32790011	1
CR 8	ELYT 10U 20% 63V	34540025	2
CR 9	ELYT 22U 20% 35V	34540021	2
CR 10	MKT 470N 10% 63V	33127123	3
CR 12	ELYT 100U 20% 25V	34540020	2
CT 1,2,3,9,14,	CESMD 10N 10% 50V	32535918	1
CT 4,24	CESMD 100N 20% 50V	32790011	1
CT 6	CESMD 33P 5% 50V	32125507	1
CT 7	CESMD 120P 5% 50V	32125523	1
CT 9	CESMD 68P 5% 50V	32125516	1
CT 11,16	CESMD 47P 5% 50V	32125508	1
CT 12,17	CESMD 180P 5% 50V	32125524	1
CT 13,18	CESMD 390P 5% 50V	32190012	1
CT 19	CESMD 47N 10% 50V	32790008	1
CT 21	ELYT 22U 20% 35V	34540021	2
CT 22	ELYT 10U 20% 63V	34540022	2
CT 23	MKT 330N 10% 63V	33127113	3
CT 27,26,28	MKT 470N 10% 63V	33127123	3
CT 29	MKT 220N 10% 63V	33127108	3
CT 31	ELYT 4U7 20% 63V	34540024	2
TRANSISTORS 			
TA 3,8	NPN SMD BC847B 45V	36145312	2
TA 4	PNP SMD BC857B 45V	36145412	2
TA 6,7	N-FET SMD 2N7002 60V	36380002	4
TF 1,2,3	NPN SMD BC847B 45V	36145312	2
TF 4	PNP SMD BC857B 45V	36145412	2
TQ 1,2	NPN BC547B 45V 100mA	36220002	1
TQ 3,4,7,9	NPN SMD BC847B 45V	36145312	2
TQ 6,8	PNP SMD BC857B 45V	36145412	2
TT 1,3	NPN SMD BC847B 45V	36145312	2
TT 2,4,5	PNP SMD BC857B 45V	36145412	2
DIODES 			
DA 4	SMD LS4148 75V 200mA	36490002	1
DF 1	SMD LS4148 75V 200mA	36490002	1
DQ 2	1N4148 75V 200mA	36420002	1
DR 2	1N4148 75V 200mA	36420002	1
DT ,3	1N4148 75V 200mA	36420002	1
ZENERS 			
DQ 1	Z BZX83C 10V 5%	36770002	1
DR 1	Z BZX83C 3V3 5%	36770001	1
DZQ 1,2	Z SMD BZX84C 8V2 5%	36780003	2
ZDA 1	Z BZX83B 3V2 2%	36770009	1
ZDA 1	Z SMD BZX84B 12V 2%	36780008	3
INTEGRATED CIRCUITS 			
ICA 1	AUDIO TDA7262	37430008	15
ICA 2	AUDIO MSP3410 TC24	37430005	31
ICA 3	OPAM MC33078N	37470006	7
ICD 1	VIDEO TDA9141-N2	37440006	27
ICD 3	VIDEO TDA4665-V3	37410008	14
ICF 1	EPROM 256Kx8 M27C2001	LM0816FTA31	31
ICF 2	EEPROM 2Kx8 24LC16P	37860015	15
ICF 3	IC uP SMD SDA30C163	37850028	23
ICQ 1	VIDEO TEA6417	37440012	15
ICR 1	VIDEO SDA5273S/C26	37850058	33
ICR 2	DRAM 1Mx4 MCM54400	37860013	36
ICT 1	VIDEO TDA4780-V3	37440003	22
COILS 			
LA 1	10UH 10%	45571699	5
LA 2	10UH 10% 230mA	45630002	3
LA 3	10UH 10% 230mA	45620003	3
LF 1,2,3	10UH 10% 230mA	45620003	3
LQ 1,2,3	2.2UH 10% 520mA	45630003	3
LQ 4,6,7	10UH 10% 230mA	45620003	3
LT 1	2.2UH 10% 1000mA	45571751	3
LT 2,3	1.8UH 10% 540mA	45620004	3
LA 1,2	LINE FILTER 2x5uH	45390004	5

Item	Description	Order no.	PG
CHRYSTALS			
			
ZA 1	18.432MHz HC-49/U	45730003	8
ZD 1	4433.619KHz HC-49/U	45730002	9
ZD 2	3.579545MHz HC-49/U	45730001	8
ZF 1	12.00MHz HC-49/U	45730005	8
ZR 1	20.48MHz HC-49/U	45730004	10
TUNER			
TU 1	TUNER SK1110 180/1tk	58231012	36
OTHERS			
			
DB-MODULE	GND-HOLDER SCO 5308 S&N	54040724	2
ICA 1	HEATSINK 5 100/50HZ	81403760	8
ICA 1	TRANSISTOR HOLDER	81403207	6
ICF1	IC-SOCKET 32-POLE DL	LZ0048	3
ICF3	IC SOCKET	41562101	11
SQ1	SPEAKER CONNECTOR 4-P	41450612	10
XA11	CONNECTOR 4-P	51005748	6
XA2	ROW CONNECTOR 9-P	73190609	3
XD3	ROW CONNECTOR 10-P	73190516	3
XQ2	SCART CONNECTOR BLUE	41910004	7
XQ3	SCART CONNECTOR BLACK	41450292	7
XQ4	CONNECTOR MODULAR 6-P	41910002	8
XQ5	CONNECTOR HEADER 8-P	41710003	3
XQ6	CONNECTOR HEADER 12-P	41710004	4
XQ7/XD2	WIRE BUNDLE 6-P 200mm	96010040	10
XSPKR	ROW CONNECTOR 4-P	73190604	3
XT1,XD2	CONNECTOR HEADER 6-P	41710002	3
XT2	CONNECTOR HEADER 10-P	41710005	4
XT3,XA4	ROW CONNECTOR 13-P	73190613	4
XT4,XD1	ROW CONNECTOR 16-P	73190510	4
	HEATSINK 6 100/50HZ	81403786	8
	GROUNDING SPRING	81403911	3

Item	Description	Order no.	PG
AJ602/603 Crossover module			
CARF 3R9 5% 0W5	(AJ602)	31650001	2
METOX 1R5 5% 1W5		31450003	2
ELYT 2U2 20% 50V		34540016	4
ELYT 4U7 20% 50V		34540034	4
COIL 36-18		93002510	9
ROW CONNECTOR 2-P		73191101	2

AR602 Surround module

RESISTORS			
RA 1,14,15,24,27,47	SMD 10K 5% 0W1	31425833	1
RA 2,4,34,35	SMD 220K 5% 0W1	31425847	1
RA 3,5,8,9	SMD 100R 5% 0W1	31425852	1
RA 6,7,10,17,19	SMD 100R 5% 0W1	31425852	1
RA 11,13	SMD 100K 5% 0W1	31425844	1
RA 12	SMD 2K2 5% 0W1	31425828	1
RA 16	SMD 4K7 5% 0W1	31425824	1
RA 18	SMD 10K 5% 0W1	31425833	1
RA 20	SMD 10R 5% 0W1	31425810	1
RA 23,25	SMD 12K 5% 0W1	31425834	1
RA 26	SMD 47K 5% 0W1	31425836	1
RA 28,33,37,42	SMD 47K 5% 0W1	31425836	1
RA 29,30	SMD 1K0 5% 0W1	31425820	1
RA 31	SMD 470R 5% 0W1	31425817	1
RA 32	SMD 1K5 5% 0W1	31425826	1
RA 36	SMD 150R 5% 0W1	31425812	1
RA 38,39	SMD 68R 5% 0W1	31425876	2
RA 40,41	SMD 2K7 5% 0W1	31425821	1
RA 43,44	SMD 1R0 5% 0W1	31490020	1
RA 45,46	SMD 1K0 5% 0W1	31425820	1

CAPACITORS			
CA 1,2,3,5,6,7,8,9,13,18,27,39	CESMD 100N 20% 50V	32790011	1
CA 10-	MKT 220N 10% 63V	33127108	3
CA 11,45,46	CESMD 10N 10% 50V	32535918	1
CA 12,42	ELYT 10U 20% 63V	34540025	2
CA 14	CESMD 1N0 10% 50V	32536203	1
CA 15	MKT 470N 10% 63V	33127123	3
CA 16	CESMD 100P 5% 50V	32125515	1
CA 17,20	CESMD 100N 20% 50V	32790011	1
CA 19,23,33	ELYT 220U 20% 35V	34510008	4
CA 21	CESMD 100P 5% 50V	32125515	1
CA 22,35	ELYT 100U 20% 25V	34540020	2
CA 26,32,34,30	ELYT 2U2 20% 63V	34540023	2
CA 28	ELYT 47U 20% 50V	34540028	2
CA 29,31	CESMD 470P 5% 50V	32190013	1
CA 36,37	ELYT 47U 20% 50V	34540028	2
CA 38,44	ELYT 1000U 20% 35V	34510013	8
CA 40,41	MKT 100N 10% 63V	33127106	2
CA 43	ELYT 470U 20% 50V	34510007	11

TRANSISTORS			
TA 1,10	NPN SMD BC847B 45V	36145312	2
TA 2	N-FET SMD 2N7002 60V	36380002	4
TA 3,4,5,6	N-FET SMD 2N7002 60V	36380002	4
TA 7,8	NPN SMD BC847B 45V	36145312	2
TA 9	PNP SMD BC857B 45V	36145412	2

DIODES			
DA 1,5	SMD BAV70 70V 215mA	36561954	2
DA 2,3	SMD BAV70 70V 215mA	36561954	2
DA 4	Z DI SMD BZX84B 12V 2%	36780008	3

INTEGRATED CIRCUITS			
ICA 1	AUDIO SMD DSP56004	37850029	35
ICA 2	SRAM SMD 32Kx8	37860025	22
ICA 3	PLL SMD TC9246F	37410015	13
ICA 4	DAC SMD TC9270F	37880010	20
ICA 6	SPECI SMD TA2009F	37410016	13
ICA 7	AUDIO TDA7262	37430008	15

COILS			
LA 1	120UH 5% 300mA	45630007	3
LA 3,4	LINE FILTER 2x5uH	45390004	5
LA 2	10UH 10% 230mA	45630002	3

OTHERS			
SW 1	PUSH-BUTTON SWITCH	41220002	15
Q 1,3,4	ROW CONNECTOR 4-PIN	73190604	3
Q 2	MODULE CONNECTOR 9-PIN	41720002	6
Q 6,7	SPEAKER CONNECTOR	41910003	5
	DPL-WIRE BUNDLE L=130	96010163	8
	HEATSINK 50mm	81403777	15
	MODULE HOLDER	54041342	4
	MODULE SUPPORT	80400280	3
	MODULE SUPPORT AR600	81403860	4
	PT-SCREW 2,9x6,5	62038955	3
	SCREW 3X8	61003204	4
	WIRE BUNDLE SURROUND	96010127	9

AV601 Subwoofer module

RESISTORS			
J 5,6,7,10	SMD 0R 5% 0W1	31425802	1
R 1,7,9,12,24,36,40	SMD 150K 5% 0W1	31425846	1
R 2,3,6,15,16,17,18,19,21,37	SMD 33K 5% 0W1	31425840	1
R 4,5,39	SMD 4K7 5% 0W1	31425824	1
R 8	SMD 22K 5% 0W1	31425837	1
R 10	SMD 220K 5% 0W1	31425847	1
R 13,14	SMD 470R 5% 0W1	31425817	1
R 22,27	SMD 47R 5% 0W1	31425809	1
R 23	SMD 220R 5% 0W1	31425815	1
R 25,28	SMD 1K8 5% 0W1	31425827	1
R 26,34,36	SMD 1K5 5% 0W1	31425826	1
R 29,30	SMD 1R0 5% 0W1	31490020	1
R 31,32	SMD 470K 5% 0W1	31425848	1
R 33,35	SMD 47K 5% 0W1	31425836	1
RA 11	SMD 150k 5% 0,125W	12832225	5
RAV 20	SMD 10K 5% 0W1	31425833	1
RAV 41	SMD 10R 5% 0W1	31425810	1

CAPACITORS			
C 1,2,3,4,8,9	CESMD 47N 10% 50V	32790008	1
C 5	CESMD 1N0 10% 50V	32536203	1
C 6,12	ELYT 100U 20% 25V	34540020	2
C 7,10,18,19,20	CESMD 100N 10% 50V	32535920	1
C 13,15,22,23,26	ELYT 1U0 20% 50V	34540030	1
C 16,17	ELYT 22U 20% 35V	34540021	2
C 21	ELYT 10U 20% 63V	34540025	2
C 24,25	CESMD 6N8 5% 50V	32790013	1
C 27	ELYT 1000U 20% 16V	34540015	6

TRANSISTORS			
T 1,3,4,5	NPN SMD BC847B 45V 100mA	36145312	2
T 2,6	PNP SMD BC857B 45V 100mA	36145412	2
T 7	N-FET SMD 2N7002 60V	36380002	4

DIODES			
DAV 1,2	DI 1N4148 75V 200mA	36420002	1
ZENERS			
Z 1	Z SMD BZX84B 12V 2%	36780008	3
INTEGRATED CIRCUITS			
IC 1,2	OPAM SMD MC33078D	37470007	7
IC 3	LOGIC SMD 4053B	37715194	6
IC 4	AUDIO TDA7262	37430008	15

OTHERS			
X 1	MODULE CONNECTOR 13-P	41720003	6
X 2	CONNECTOR ROW 3-P FASTENING SPRING	73186454	3
		54040762	1

CF602 Combfilter module

RESISTORS			
JC 10,12,13	SMD 0R J 0W25	31425601	1
RC 1	SMD 47K 5% 0W1	31425836	1
RC 2,24	SMD 100R 5% 0W1	31425852	1
RC 3,5,7,18	SMD 10K 5% 0W1	31425833	1
RC 4	SMD 3K3 5% 0W1	31425829	1
RC 6,16	SMD 220R 5% 0W1	31425815	1
RC 8,9	SMD 2K2 5% 0W1	31425828	1
RC 10	SMD 22K 5% 0W1	31425837	1
RC 11,23	SMD 470R 5% 0W1	31425817	1
RC 12,15,14	SMD 1K0 5% 0W1	31425820	1
RC 13	SMD 390R 5% 0W1	31425816	1
RC 17	SMD 560R 5% 0W1	31425818	1
RC 19	SMD 820K 5% 0W1	31425885	1
RC 20	SMD 330R 5% 0W1	31425857	1
RC 21,25,26	SMD 100K 5% 0W1	31425844	1
RC 22	SMD 120K 5% 0W1	31425845	1

CAPACITORS			
CC 1	CESMD 470P 5% 50V	32190013	1
CC 2,6,13,18,19,22,26,28,29,32	CESMD 100N 10% 50V	32535920	1
CC 3,11	CESMD 10P 5% 50V	32125506	1
CC 4	CESMD 16P 5% 50V	32190029	1
CC 5	CESMD 1N0 2% 50V	32190023	3
CC 12,17,21,33	ELYT 47U 20% 50V	34540028	2
CC 23,34,41	ELYT 10U 20% 63V	34540025	2
CC 24,27	ELYT 4U7 20% 63V	34540024	2
CC 31	CESMD 470N 80/20% 50V	32790012	2
CC 35,36	CESMD 56P 5% 50V	32125526	1
CC 38	CESMD 68P 5% 50V	32125516	1

TRANSISTORS			
TC 3,7,9	NPN SMD BC847B 45V	36145312	2
TC 4,6,8	PNP SMD BC857B 45V 100mA	36145412	2
TC 5	NPN SMD BF599 25V 25mA	36280003	4

INTEGRATED CIRCUITS			
IC 1	VIDEO SMD MC44144	37440015	13
IC 2	LOGIC SMD 4053B	37715194	6
IC 3	VIDEO MC141625	37791115	27

CHRYSTALS			
ZC 1	17.334475 MHZ HC49/U C	44213136	11

COILS			
LC 1,2,5,6	15UH 10% 610mA	45630004	3
LC 3	10UH 10% 230mA	45630002	3
LC 4	6,8 uH	31301068	6

OTHERS			
QC 1	F-CONNECTOR 13-PIN	41750002	7

DH600 Helper module

RESISTORS			
J 3,7	SMD 0R 5% 0W1	31425802	1
R 10	SMD 100K 5% 0W1	31425844	1
R 11,12,55,37,47	SMD 1K0 5% 0W1	31425820	1
R 13	SMD 470R 5% 0W1	31425817	1
R 14	SMD 27K 5% 0W1	31425839	1
R 15,21	SMD 390R 5% 0W1	31425816	1
R 16	SMD 100R 5% 0W1	31425852	1
R 17	SMD 1K5 5% 0W1	31425826	1
R 18	SMD 10R 5% 0W1	31425810	1
R 19,20,22,25,38,43,45,46,48,52	SMD 10K 5% 0W1	31425833	1
R 23,26,51	SMD 4K7 5% 0W1	31425824	1
R 24,44	SMD 47K 5% 0W1	31425836	1
R 27,30,31,53	SMD 2K7 5% 0W1	31425821	1
R 28	SMD 3K3 5% 0W1	31425829	1
R 29	SMD 5K6 5% 0W1	31425825	1
R 34	SMD 560R 5% 0W1	31425818	1
R 35	SMD 22R 5% 0W1	31425849	1
R 39	SMD 8K2 5% 0W1	31425832	1
R 40,41	SMD 820K 5% 0W1	31425885	1
R 49	SMD 220R 5% 0W1	31425815	1
RDH 32,33	SMD 330R 5% 0W1	31425857	1
RDH 36	SMD 120R 5% 0W1	31425853	1
RDH 42	SMD 180K 5% 0W1	31490012	1

CAPACITORS			
C 10,12,13,14,16,17,18,19,20,21,26,27	CESMD 100N 10% 50V	32535920	1
C 23	CESMD 5P6 5% 50V	32190017	1
C 24	CESMD 22P 5% 50V	32125521	1
C 25	CESMD 27P 5% 50V	32125509	1
C 28,29,30,33	CESMD 100N 10% 50V	32535920	1
C 32	CESMD 120P 5% 50V	32125523	1
C 34,37	CESMD 100P 5% 50V	32125515	1
C 35	CESMD 33P 5% 50V	32125507	1
C 40,41	ELYT 47U 20% 16V	34540019	2
CDH 11	CESMD 56P 5% 50V	32125526	1
CDH 22	CESMD 22N 10% 50V	32535914	1
CDH 31	CESMD 4N7 10% 50V	32790007	1
CDH 36	CESMD 10N 10% 50V	32535918	1
CDH 38,39	CESMD 470P 5% 50V	32190013	1

TRANSISTORS			
T 10,11,14,15,16,17,12	NPN SMD BC847B 45V	36145312	2
T 13	PNP SMD BC857B 45V	36145412	2

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Item	Description	Order no.	PG
L 1	220UH 5% 250mA	45630009	3
L 2	120UH 5% 300mA	45630007	3
	F-CONNECTOR 13-P	41750002	7

DM600 PALplus module

RESISTORS

R 001,002,081,091,071,99	SMD 820R 5% 0W1	31425819	1
R 003	SMD 75R 5% 0W1	31425861	1
R 004	SMD 10R 5% 0W1	31425810	1
R 005,006,012,013,025,026,032,033	SMD 47K 5% 0W1	31425836	1
R 007,027	SMD 22R 5% 0W1	31425849	1
R 008,010,028,030,014	SMD 470R 5% 0W1	31425817	1
R 009,029	SMD 180R 5% 0W1	31425854	1
R 011,031,037,075	SMD 220R 5% 0W1	31425836	1
R 015,016,022,023	SMD 47K 5% 0W1	31425849	1
R 017	SMD 22R 5% 0W1	31425817	1
R 018,020,024	SMD 470R 5% 0W1	31425817	1
R 019	SMD 240R 5% 0,065W	12806513	1
R 021,103	SMD 180R 5% 0W1	31425854	1
R 034	SMD 560R 5% 0W1	31425818	1
R 035,073,090	SMD 4K7 5% 0W1	31425844	1
R 036,072,094	SMD 100K 5% 0W1	31425857	1
R 038,076	SMD 330R 5% 0W1	31425857	1
R 039,041,047,049,050	SMD 220R 5% 0W1	31425815	1
R 040,042,051	SMD 330R 5% 0W1	31425857	1
R 044	SMD 120K 5% 0W1	31425845	1
R 045	SMD 10R 5% 0W1	31425810	1
R 046	SMD 1K5 5% 0W1	31425826	1
R 048	SMD 2K7 5% 0W1	31425821	1
R 054	SMD 10K 5% 0W1	31425833	1
R 056	SMD 12K 5% 0W1	31425834	1
R 057	SMD 150R 5% 0W1	31425812	1
R 058,067,093,102	SMD 10K 5% 0W1	31425833	1
R 059,104	SMD 75R 5% 0W1	31425861	1
R 60,61	SMD 56R 5% 0W1	31425865	1
R 062	SMD 2K2 5% 0W1	31425828	1
R 063,068	SMD 39K 5% 0W1	31425841	1
R 064,98	SMD 33K 5% 0W1	31425840	1
R 065,043	SMD 3K3 5% 0W1	31425829	1
R 066	SMD 15K 5% 0W1	31425835	1
R 069,070	SMD 100R 5% 0W1	31425852	1
R 74,55	SMD 1K8 5% 0W1	31425827	1
R 085,086,087,088	SMD 100R 5% 0W1	31425852	1
R 092	SMD 22K 5% 0W1	31425837	1
R 095,096	SMD 200R 5% 0W1	31490067	2
R 97	SMD 82K 5% 0W1	31425843	1
R 100	SMD 680R 5% 0W1	31425860	1
R 101	SMD 270R 5% 0W1	31425855	1
R 105	SMD 1K8 5% 0W1	31425827	1
RO 082,083,084	SMD NET 8x4K7 5% 0W1	37250001	7

CAPACITORS

C 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15	CESMD 100N 10% 50V	32535920	1
C 17,18,19,20,21,22,23,24,25,26,27,28,2	CESMD 100N 10% 50V	32535920	1
C 30,34,35,38,39,40,42,44,45,47,48,50,5	CESMD 100N 10% 50V	32535920	1
C 033,041,043,060,070,090,099	ELYT 22U 20% 35V	34540021	2
C 036,037,046,049,062,072,080,082	ELYT 100U 20% 25V	34540020	2
C 053,055	ELYT 1U0 20% 63V	34540022	2
C 54,73,79,95,105,106,107,112,116,117	CESMD 100N 10% 50V	32535920	1

C 56,63,69,83,89,108,113	CESMD 100N 10% 50V	32535920	1
C 057,058,059	CESMD 1N0 10% 50V	32536203	1
C 061,081	CESMD 10N 10% 50V	32535918	1
C 064	CESMD 47P 5% 50V	32125508	1
C 065	CESMD 3P9 5% 50V	32190015	1
C 066,086	CESMD 82P 5% 50V	32125531	1
C 067	CESMD 10P 5% 50V	32125506	1
C 068	CESMD 39P 5% 50V	32125512	1
C 071	CESMD 10N 10% 50V	32535918	1
C 074,124	CESMD 47P 5% 50V	32125508	1
C 075	CESMD 3P9 5% 50V	32190015	1
C 076	CESMD 82P 5% 50V	32125531	1
C 077	CESMD 10P 5% 50V	32125506	1
C 078	CESMD 39P 5% 50V	32125512	1
C 084	CESMD 33P 5% 50V	32125507	1
C 085	CESMD 5P6 5% 50V	32190017	1
C 087	CESMD 27P 5% 50V	32125509	1
C 088	CESMD 68P 5% 50V	32125516	1
C 092	CESMD 2N2 10% 50V	32535904	1
C 093	CESMD 47N 20% 50V	32535909	2
C 094,123	ELYT 4U7 20% 63V	34540024	2
C 096	CESMD 470P 5% 50V	32190013	1
C 097,098	CESMD 68P 5% 50V	32125516	1
C 100,101	CESMD 3P3 5% 50V	32190011	1
C 102,127	ELYT 10U 20% 63V	34540025	2
C 103	CESMD 22N 10% 50V	32535914	1
C 109	CESMD 100P 5% 50V	32125515	1
C 110	CESMD 1N5 20% 50V	32535907	2
C 111,126	CESMD 100P 5% 50V	32125515	1
C 114	CESMD 18P 5% 50V	32125520	1
C 115	CESMD 22P 5% 50V	32125521	1
C 118,119,120,121,122	CESMD 100N 10% 50V	32535920	1
C 125	CESMD 150P 5% 50V	32125511	1
CO 051	ELYT 47U 20% 50V	34540028	2

TRANSISTORS

T 001,009,010,14,15	NPN SMD BC847B 45V 100mA	36145312	2
T 002,003,006,007	NPN SMD BFS20 20V 25mA	36120719	3
T 004,005	NPN SMD BFS20 20V 25mA	36120719	3
T 008	PNP SMD BF550 40V 25mA	36120725	4
T 013	NPN SMD BC847B 45V 100mA	36145312	2

DIODES

D 001	SMD BBY40 4.3/6pF 25/3V	36730001	5
D 002,004,005	SMD BAS16 75V 250mA	36560318	2
D 003,006,007	SMD LS4148 75V 200mA	36490002	1

INTEGRATED CIRCUITS

IC 001	V-REG PQ05RH11 5V 1.5A	37460008	12
IC 002	V-REG LM29362 5V 50mA	37681831	9
IC 003	LOGIC SMD 4053B	37715194	6
IC 004	LOGIC SMD 74HCT4046A	37840003	12
IC 008	ADC SMD SDA9205-2	37880003	27
IC 009	uC SMD S87C752-1A28	37850044	28
IC 010	LOGIC SMD 74F175	37840006	8
IC 011	LOGIC SMD 74F244	37810003	8
IC 012	LOGIC SMD 74HCT00	37810004	5
IC 013	LOGIC SMD 74HCT7731	37820001	18
IC 016	VIDEO SMD SDA9280-A41	37440019	33
IC 017	DEFL TDA9151B-N3	37450001	25
IC 018	LOGIC SMD 74F08	37840002	6
IC 019	LOGIC SMD 74HCT32	37810002	5
IC 022	LOGIC SMD 74F157	37840008	12
IC 025	LOGIC SMD 74F153	37840009	11
IC 026	uC SMD TMC57120PB	37850048	38
IC 027	uP SMD D77512PB SVP	37850049	44
IC 20	LOGIG SMD 74F14	37810005	4
IC 23,24	MEM SMD TMS4C2970	37860039	37

Item	Description	Order no.	PG
COILS			
L 001	10UH 10%	45571699	5
L 002	SMD 10UH 10% 320mA	45640003	6
L 003,005,013,015	SMD 10UH 10% 180mA	45640002	5
L 004,014	SMD 10UH 10% 180mA	45640002	5
L 006,010,011	SMD 15UH 10% 5mA	45572601	5
L 007,016	SMD 12UH 10% 15mA	45640005	5
L 008	SMD 15UH 10% 5mA	45572601	5
L 009	SMD 12UH 10% 15mA	45640005	5
L 012	SMD 1.5uH 10% 50mA	45640018	5

CHRYSTALS

Z 001	12.00MHz HC-49/U	45730005	8
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OTHERS

Q 101,102	MODULE CONNECTOR 16-P	41458102	8
Q 103	MODULE CONNECTOR 10-P	41720007	7
	COVER FUTURE BOX	81403791	6
	BOTTOM FUTURE BOX	81403808	5
	FRONT PANEL-2 FUTURE BOX	81403816	4
	FRAME-2 FUTURE BOX	81403823	6

FC600 Control module

RESISTORS

J 1	SMD 0R J 0W25	31425601	1
J 14,17	SMD 0R 5% 0W1	31425802	1
R 1,2,10,17	SMD 47K 5% 0W25	31425639	1
R 3,4	SMD 75R 5% 0W25	31425669	1
R 8,9	SMD 270R J 0W25	31425613	1
R 11,16,18	SMD 15K 5% 0W25	31425637	1
R 12,7	SMD 1KJ J 0W25	31425622	1
R 13	SMD 330R J 0W25	31425614	1
R 14	SMD 100K 5% 0W25	31425646	1
R 15,19,20	SMD 10K 5% 0W25	31425635	1
R 21,22	CARF 2K2 5% 0W25	31660037	1

CAPACITORS

C 1,2	MP/P 100N M 250VAC	33260001	4
C 5,7	CESMD 4N7 10% 50V	32790007	1
C 8,20	ELYT 10U 20% 35V	34540027	2
C 10,13	CESMD 390P 5% 50V	32125646	2
C 11	CESMD 1N0 10% 50V	32535901	1
C 14,15	ELYT 100U 20% 25V	34540020	2
C 16,17,18,19	CESMD 10N 10% 50V	32535918	1
C 21,22	CER 15P 5% 50V	32180003	1

TRANSISTORS

T 2,4	PNP SMD BC857B 45V	36145412	2
T 3	NPN SMD BC847B 45V	36145312	2

DIODES

D 1	SMD BAV70 70V 215mA	36561954	2
D 2	LED GREEN 5mm	36910005	3
D 3,4	LED RED 5mm	36910004	3

INTEGRATED CIRCUITS

IC 1	IR-RECEIVER	36940001	14
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SWITCH

SW 1,2,3,4	TACTILE SWITCH	41150685	9
SW 1	MAINS SWITCH 250V 4~80A	41210005	12

COILS

L 1,2	56UH 20% 1.5A	45620009	6
L 3,4,7,8,9	10UH 10% 230mA	45630002	3

Item	Description	Order no.	PG
L 5,6	2.2UH 10% 520mA	45630003	3
M 1	MAINS COIL 2x27mH	45390003	15

FUSES

F 1	T3.15A HIGH BREAK 5X20MM	43751652	3
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OTHERS

A 1	COVER CAM CONNECTOR	81403599	3
A 2	MODULE SUPPORT	81408167	3
F 1	FUSEHOLDER CLIPS 5*20MM	41540001	1
Q 1	ROW CONNECTOR 2-PIN	73184701	3
Q 10	CONNECTOR PHONO 3.5mm	41910001	8
Q 2	WIRE BUNDLE 2-PIN 410mm	96008011	5
Q 4	WIRE BUNDLE 8-PIN 600mm	96010033	12
Q 5	WIRE BUNDLE 12-PIN 500mm	96010026	13
Q 6	RCA CONNECTOR 3 IN ROW	41430747	9
Q 9	S-VHS CONNECTOR	41452244	10

F0602/670 Dyn. focus module

RESISTORS

RFO 1	FUS V 100R 10% 1W0	31840002	3
(F0670)	POT 100M 15% 1.5W FOCUS	31260001	28
(F0602)	POT 40M 20% 0W6 FOCUS	31250003	12

CAPACITORS

CFO 1	IMPCAP 820P K 1K5V	CE2094	4
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OTHERS

	FOCUS HOLDER	80409580	9
	ROW CONNECTOR 2-P	73184701	3
	ROW CONNECTOR 5-P	41710001	3
	ROW CONNECTOR 3-PIN	41710007	2
	TRAFO AT4043/67A	45380018	18
	WIRE BUNDLE FO/Z	96010058	9
	WIRE	96010165	5
	WIRE 140mm	96010150	4
(F0602)	WIRE BUNDLE FO/Z 50HZ	96010149	7

HH653/655/656 CRT-module

RESISTORS

RH	3,12,16	CARF 4K7 5% 0W25 FP	31514522	1
RH	4,13,17	METOX 39K 5% 1W0	31440007	3
RH	5,10,15	SMD 330R 5% 0W1	31425857	1
RH	6,7,8	SMD 680R 5% 0W1	31425860	1
RH	9,11,14	SMD 1K5 5% 0W1	31425826	1
RH	18,19,21,22, 23,24	CARF 470R 5% 0W25	31660014	1
RH	20	SMD 470K 5% 0W1	31425848	1
RH	25	CARF 470k 5% 0,25W	12121300	5
RH	26	CARF 33K 5% 0W25 FP	31630036	1
RH	27	CARF 4M7 5% 0W25	31660029	1
RH	28,33	COMP 1K5 10% 0W5	31594639	3
RH	29	CARF 8K2 5% 0W25	31660021	1
RH	31	SMD 22R 5% 0W1	31425849	1
RH	36	SMD 100K 5% 0W1	31425844	1
RH	37	SMD 2K2 5% 0W1	31425828	1

Item	Description	Order no.	PG
CH 19	MKT 22N 10% 250V	33380002	2
CH 21	MKT 470N 10% 63V	33127123	3
CH 22	MKT 8N2 K 1K5V	33460032	4
CH 23,24,25	CESMD 330P 5% 50V	32125517	1
CH 27	ELYT 10U 20% 63V	34540025	2

TRANSISTORS			
TH 1	NPN BF422 250V 100mA	36125217	2

DIODES			
DH 1,2	RECT PWR BYV36C 600V	36575452	4
DH 3,4,5,6,7	SMD LS4148 75V 200mA	36490002	1

INTEGRATED CIRCUITS			
ICH 1	VIDEO TEA5101A	37661190	15

COILS			
J 5,10,11	4.7UH 10% 820mA	45610002	3
LH 1	10UH 10% 230mA	45620003	3
LH 1 (HH653/655)	10UH 10% 230mA	45620003	3
LH 2,3,4 (HH653/655)	4.7UH 10% 820mA	45610002	3

OTHERS			
CRT1	BLADE CONNECTOR 2.8MM	41930001	1
CRT2	BLADE CONNECTOR 2.8MM	41930001	1
UG2,FOG,FGO-GND	BLADE CONNECTOR 2.8MM	41930001	1
	CRT SOCKET	41510004	9
	CRT SOCKET (HH653/655)	41510001	16
	HEATSINK VIDEO OUTPUT	81403582	5
	TRANSISTOR HOLDER	81403207	6
	WIRE BUNDLE 10-P 400mm	96010002	11
	WIRE BUNDLE 6-P 370mm	96010019	10

LL670/671 IF-module

RESISTORS			
RL 1,11	SMD 220R 5% 0W1	31425815	1
RL 2	SMD 47K 5% 0W1	31425836	1
RL 3	SMD 2K2 5% 0W1	31425828	1
RL 4,28,30	SMD 1K0 5% 0W1	31425820	1
RL 6 (LL671)	CARF 10R 5% 0W25 FP	31514513	1
RL 7 (LL671)	SMD 100R 5% 0W1	31425852	1
RL 8 (LL671)	SMD 1K8 5% 0W1	31425827	1
RL 9 (LL671)	SMD 5K6 5% 0W1	31425825	1
RL 12	SMD 100K 5% 0W1	31425844	1
RL 14,25	SMD 68R 5% 0W1	31425876	2
RL 15	SMD 1M0 5% 0W1	31425801	1
RL 16 (LL671)	SMD 22K 5% 0W1	31425837	1
RL 16,29 (LL670)	SMD 22K 5% 0W1	31425837	1
RL 17	CARF 6K8 5% 0W25 FP	31630029	1
RL 19	CARF 470R 5% 0W25	31660014	1
RL 26	SMD 270R 5% 0W1	31425855	1
RL 27 (LL671)	CARF 330R 5% 0W25 FP	31514524	1

CAPACITORS			
CL 1,2,6,15,16	ELYT 1U0 20% 63V	34540022	2
CL 3,8,17,18	CER SMD 1N0 10% 50V	32536203	1
CL 4,14	CER SMD 10N 10% 50V	32535918	1
CL 5,7	ELYT 10U 20% 63V	34540025	2
CL 9	CER SMD 22N 20% 50V	32790009	1
CL 10	CER SMD 47P 5% 50V	32125508	1
CL 12,20 (LL671)	CER SMD 100N 20% 50V	32790011	1
CL 13 (LL671)	CER SMD 3P3 5% 50V	32190011	1
CL 19	ELYT 2U2 20% 63V	34540023	2
CL 20 (LL670)	CER SMD 100N 20% 50V	32790011	1
CL 21	ELYT 22U 20% 35V	34540021	2

Item	Description	Order no.	PG
TRANSISTORS			
TL 2,6,9,10 (LL670)	NPN SMD BC847B 45V	36145312	2
TL 2,6,9 (LL671)	NPN SMD BC847B 45V	36145312	2
TL 3 (LL671)	NPN SMD BF599 25V	36280003	4
TL 7,8	PNP SMD BC857B 45V	36145412	2

INTEGRATED CIRCUITS			
ICL 1,2	VIDEO TDA6050	37440005	14

COILS			
LL 1	ADJ 135nH	45530017	5
LL 2 (LL671)	1.5UH 10% 570mA	45630001	3
LL 3	0.68UH 10% 530mA	45630012	3
LL 4	10UH 10% 230mA	45620003	3
LL 5	22UH 10% 170mA	45620005	3
LL 6	ADJ 0,26UH	45530003	5

FILTERS			
ZDL 6 (LL670)	FIL CER TPS 5.5 MB	45558410	4
ZDL 6 (LL671)	FIL CER TPS 6.0 MB	45558411	4
ZL 2 (LL671)	SAW FILTER K9260 M	45740008	15
ZL 4 (LL671)	SAW FILTER OFW G3270 B/G	45740020	21
ZL 4 (LL670)	SAW-FILTER OFW G3264	31201878	14

OTHERS			
	INTERFERENCE SHIELD	81403884	5
	F-CONN 7-N Metallo	41750001	5

LL675 IF-module

RESISTORS			
J 9,10,15,6	SMD 0R 5% 0W1	31425802	1
RL 1	SMD 330R 5% 0W1	31425857	1
RL 2	CARF 4K7 5% 0W25	31660031	1
RL 3,53,59,58	SMD 47K 5% 0W1	31425836	1
RL 4	SMD 2K2 5% 0W1	31425828	1
RL 11,37	SMD 100K 5% 0W1	31425844	1
RL 13,36	SMD 220R 5% 0W1	31425815	1
RL 14	SMD 680R 5% 0W1	31425860	1
RL 17	SMD 4K7 5% 0W1	31425824	1
RL 18	CARF 47K 5% 0W25	31660026	1
RL 19,46,55,56,57,61	SMD 10K 5% 0W1	31425833	1
RL 21,22,26,49,64	SMD 1K0 5% 0W1	31425820	1
RL 23	SMD 5K6 5% 0W1	31425825	1
RL 24	SMD 100R 5% 0W1	31425852	1
RL 27,39,45	SMD 6K8 5% 0W1	31425831	1
RL 32	CARF 470R 5% 0W25	31660014	1
RL 33	SMD 33R 5% 0W1	31425808	1
RL 34	SMD 68R 5% 0W1	31425876	2
RL 38,43,44,52	SMD 22K 5% 0W1	31425837	1
RL 42	SMD 3M3 5% 0W1	31425884	1
RL 48	SMD 120R 5% 0W1	31425853	1
RL 51	SMD 68K 5% 0W1	31425838	1
RL 54	SMD 3K3 5% 0W1	31425829	1
RL 65	SMD 1K5 5% 0W1	31425826	1

CAPACITORS			
CL 1	CESMD 47P 5% 50V	32125508	1
CL 2,13,14,15,	ELYT 1U0 20% 63V	34540022	2
CL 16,21,33	ELYT 1U0 20% 63V	34540022	2
CL 19,27,32,38	CESMD 1N0 10% 50V	32536203	1
CL 4,22,26,31,43	CESMD 10N 10% 50V	32535918	1
CL 7,8,42	ELYT 4U7 20% 63V	34540024	2
CL 17,26	ELYT 10U 20% 63V	34540025	2
CL 23	CESMD 3P3 5% 50V	32190011	1
CL 34,37	CESMD 22P 5% 50V	32125521	1
CL 35	ELYT 2U2 20% 63V	34540023	2

Item	Description	Order no.	PG
CL 36	CESMD 12P 5% 50V	32124707	1
CL 39	MKT 220N 10% 63V	33127108	3
CL 41	CESMD 100N 20% 50V	32790011	1
CL 44	ELYT 100U 20% 16V	34540031	2
CL 46	CESMD 68P 5% 50V	32125516	1

TRANSISTORS			
TL 1,2,3,5,6,9,11,	NPN SMD BC847B 45V	36145312	2
TL 13,14,15,16,17	NPN SMD BF599 25V	36280003	4
TL 7,8,12	PNP SMD BC857B 45V	36145412	2

DIODES			
DL 2,8	SMD LS4148 75V 200mA	36490002	1
DL 6,10	1N4148 75V 200mA	36420002	1
DL 7,9,11	SMD BA592 35V 100mA	36490004	3

INTEGRATED CIRCUITS			
ICL 1	VIDEO TDA6050-5/D5	37440005	14
ICL 2	VIDEO TDA6050-5/D5 Sele	37440032	14
ICL 3	AUDIO SMD TDA9830 SO16	37430009	14

COILS			
LL 1	ADJ 135nH	45530017	5
LL 2	22UH 10% 170mA	45620005	3
LL 3	0.82uH 10% 500mA	31301120	4
LL 4	470nH 20% 750mA	45630017	3
LL 6	ADJ 0,23UH	45530006	5
LL 7	6.8uH	31300401	6
LL 9	3.9uH 10% 400mA	45630019	3

FILTERS			
ZL 1	SAW K9260 M	45740008	15
ZL 2	SAW L9453	45740010	18
ZL 3	SAW K3953	45740017	18
ZL 4	SAW OFW G3264	31201878	14
ZL 6	CER TPS 6.0 MB	45558411	4
ZL 7	CER TPS 6.5 MB	45558412	5
ZL 8	CER TPS 5.5 MB	45558410	4

OTHERS			
X 1,2	F-CONNECTOR 7-PIN INTERFERENCE SHIELD	41750001	5
		81403884	5

PP600 PIP-module

RESISTORS			
JP 25,26,27,28,29,	SMD 0R 5% 0W1	31425802	1
JP 31,32,30,33,34	SMD 680R 5% 0W1	31425860	1
RP 15,42	SMD 1K0 5% 0W1	31425820	1
RP 16,25,26,27,28,	SMD 820R 5% 0W1	31425819	1
RP 31,32,52,35,36,64	SMD 10K 5% 0W1	31425833	1
RP 17	SMD 47R 5% 0W25 FP	31514525	1
RP 18,85,82	SMD 470R 5% 0W1	31425817	1
RP 21,22	CARF 47K 5% 0W25	31660026	1
RP 23,62	SMD 27K 5% 0W1	31425839	1
RP 34	CARF 47K 5% 0W25	31660026	1
RP 37	CARF 1K0 5% 0W25	31660016	1
RP 41	SMD 15K 5% 0W1	31425835	1
RP 43	SMD 82K 5% 0W1	31425843	1
RP 44	CARF 270R 5% 0W25	31660011	1
RP 45,46	SMD 47K 5% 0W1	31425836	1
RP 51,54	SMD 27K 5% 0W1	31425839	1
RP 53	SMD 270R 5% 0W1	31425855	1
RP 55	SMD 5K6 5% 0W1	31425825	1
RP 56,57	SMD 330R 5% 0W1	31425857	1
RP 58			
RP 61,65,66,67			

Item	Description	Order no.	PG
RP 81,83	SMD 22K 5% 0W1	31425837	1
RP 84,86	SMD 100K 5% 0W1	31425844	1

CAPACITORS			
CP 14,41,47,48,	ELYT 22U 20% 35V	34540021	2
CP 65,66	CESMD 470N 80/20% 50V	32790012	2
CP 15,18,21,23,24,	CESMD 100N 20% 50V	32790011	1
CP 56,57,71,72,73	CESMD 4N7 10% 50V	32790007	1
CP 25,26,31,33,36,37,	MKT 470N 10% 63V	33127123	3
CP 38,42,43,44,45,	CESMD 18P 5% 50V	32125520	1
CP 46,51,52,63,64,65	CESMD 22N 20% 50V	32790009	1
CP 27,32	CESMD 1N5 10% 50V	32790006	1
CP 28,62	CESMD 100P 5% 50V	32125515	1
CP 34,35	CESMD 1N0 10% 50V	32536203	1
CP 53,54			
CP 61			
CP 67,68			
CP 81			

TRANSISTORS			
TP 2,3,4,5,6,7	NPN SMD BC847B 45V	36145312	2

DIODES			
DP 1	SMD LS4148 75V 200mA	36490002	1

INTEGRATED CIRCUITS			
ICP 2	VIDEO TEA5115	37440002	12
ICP 3	VIDEO TDA9141-N2	37440006	27
ICP 4	VIDEO TDA4665-V3	37410008	14
ICP 5	VIDEO SMD SDA9187-2X	37440010	23
ICP 6	VIDEO SMD SDA9188-3X	37440011	31

COILS			
LP 51,52,61,62	10UH 10% 230mA	45630002	3
ZP 3	4433.619KHz HC-49/U	45730002	9
ZP 4	3.579545MHz HC-49/U	45730001	8
ZP 5	20.48MHz HC-49/U	45730004	10

OTHERS			
WP 1	WIRE BUNDLE 6-P 200mm	96010040	10
XP 2	CONNECTOR HEADER 6-P	41710002	3
XP 1	MODULE CONNECTOR 13-P	41720003	6

TA60

Item	Description	Order no.	PG
CTA 3,4,15,17,18	ELYT 22U 20% 16V	34540009	2
CTA 5	ELYT 47U M 16V	34540045	2
CTA 7,8	ELYT 10U 20% 50V	34540030	1
CTA 9,10	CERSMD 10N 20% 50V	32536212	1
CTA 12	ELYT 100U 20% 16V	34540031	2
CTA 14	CERSMD 470P 5% 50V	32190013	1

TRANSISTORS

TTA 1,2,8,9	N-FET SMD 2N7002 60V	36380002	4
TTA 3,4,6,7	NPN SMD BC847B 45V 100mA	36145312	2
TTA 5	PNP SMD BC857B 45V 100mA	36145412	2

DIODES

TDA 1,2,3	SMD LS4148 75V 200mA	36490002	1
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INTEGRATED CIRCUITS

ICTA 1	OPAM SMD TL082CD	37470003	5
ICTA 2	SMD-IC LM358 SO-8	43007077	7

COILS

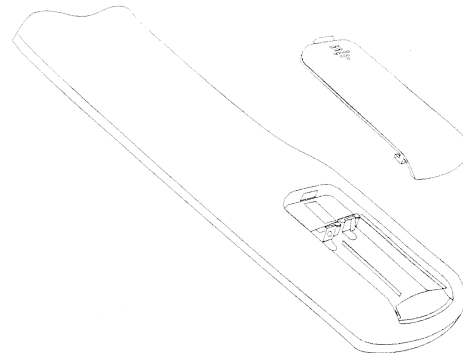
LTA 1,2,3,4	10UH 10% 230mA	45620003	3
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OTHERS

XA 1	CONNECTOR HEADER 6-PIN	41710002	3
XT 7	CONNECTOR RCA RED	41920001	5
XT 8	CONNECTOR RCA WHITE	41920002	4

RCN610 RC NOKIA

BATTERY COVER MAT.D.B	80418127	3
SLIDE COVER NOKIA RCN610 B	80419549	6



Item	Description	Order no.	PG
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VM601/602/604 SVM-module

RESISTORS

RVM 1	SMD 3K9 5% 0W1	31425830	1
RVM 2	SMD 4K7 5% 0W1	31425824	1
RVM 3	SMD 10K 5% 0W1	31425833	1
RVM 4,13	SMD 10K 5% 0W1	31425820	1
RVM 6,23,31	CARF 100R 5% 0W25 FP	31514516	1
RVM 7	SMD 680R 5% 0W1	31425860	1
RVM 8,11,12	SMD 470R 5% 0W1	31425817	1
RVM 9,14	SMD 820R 5% 0W1	31425819	1
RVM 16,17	SMD 47R 5% 0W1	31425809	1
RVM 18,21	SMD 6K8 5% 0W1	31425831	1
RVM 19	SMD 560R 5% 0W1	31425818	1
RVM 22	CARF 330R 5% 0W25 FP	31514524	1
RVM 24	CARF 3R3 5% 0W25 FP	31514515	1
RVM 26,28	CARF 10R 5% 0W25 FP	31514513	1
RVM 27,29	SMD 5K6 5% 0W1	31425825	1
RVM 32	CARF 3R3 5% 0W25 FP	31514515	1
RVM 33	METF 100R 1% 0W6	31440035	1

CAPACITORS

CVM 1	CESMD 22P 5% 50V	32125521	1
CVM 2	CESMD 68P 5% 50V	32125516	1
CVM 3,6,12,13,14,16,17	CESMD 100N 10% 50V	32535920	1
CVM 4	CESMD 10N 10% 50V	32535918	1
CVM 7,8	CESMD 22N 10% 50V	32535914	1
CVM 9	ELYT 10U 20% 63V	34540025	2
CVM 11	ELYT 47U 20% 50V	34540028	2
CVM 18	CESMD 2N2 10% 50V	32535904	1

TRANSISTORS

ICVM 9	NPN BC637 60V 1A	36220003	3
TVM 2,3,4,7	PNP SMD BF824 30V 25mA	36120751	4
TVM 6,1	NPN SMD BF599 25V 25mA	36280003	4
TVM 8	PNP BC638 60V 1A	36220004	3

OTHERS

F-CONNECTOR 4-P	41750003	5
CONNECTOR PIN STRIP 3-P	51035031	3

SCE063 WOOFER BOX F7,F2

SPEAKER LPT 114/19/95	43120012	25
WIRE BUNDLE BOX-STEL.. SCE056 PN4988	96008820	6

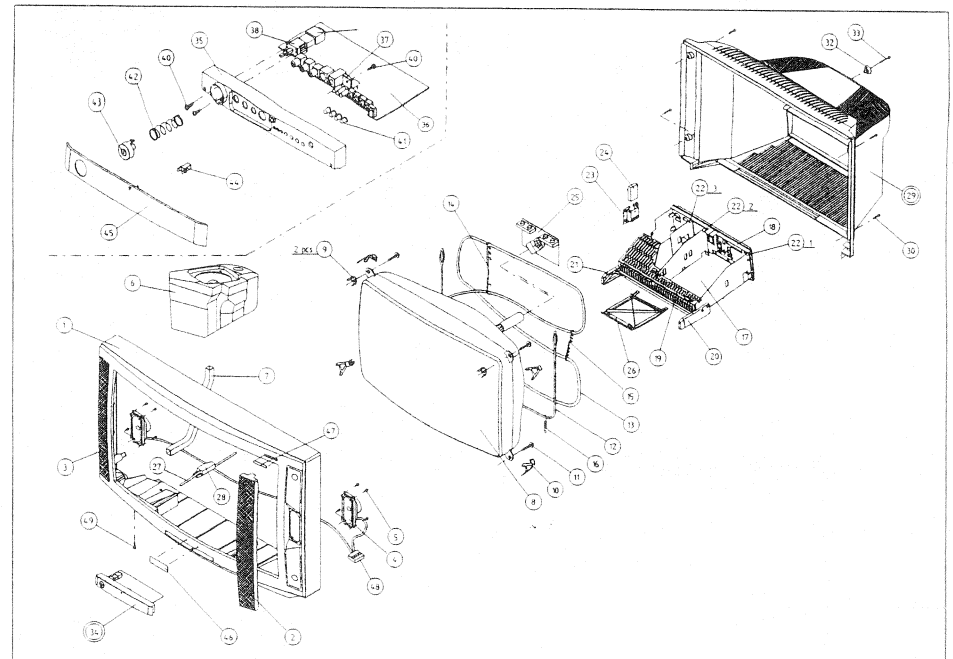
SCE070 SUB.WOOFER

SPEAKER 4910141324 LPT 114/19/110S	33004560	26
WIRE BUNDLE BOX-STEL.. SCE056 PN4988	96008820	6

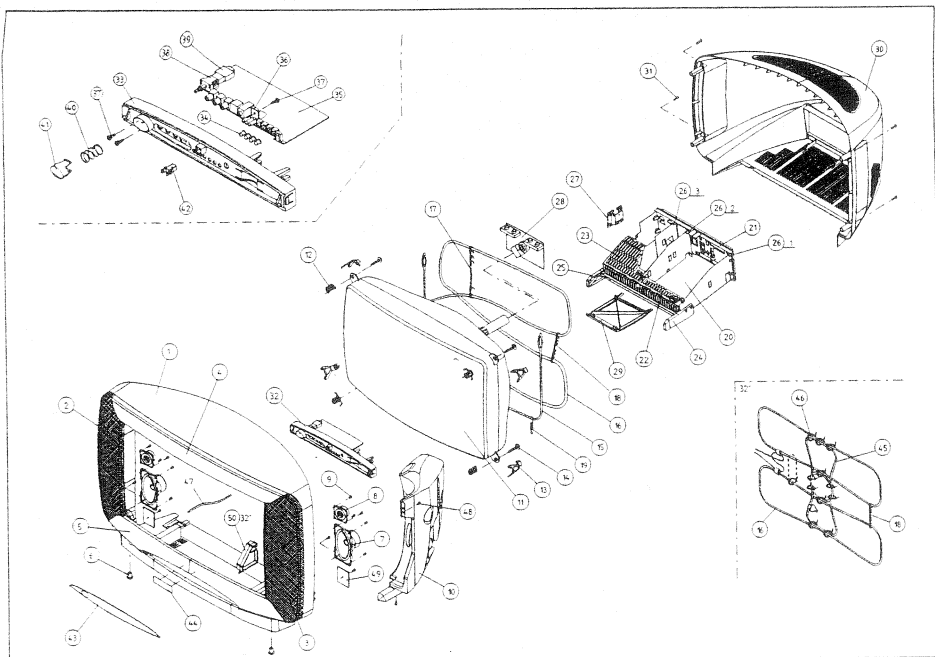
SCE080 DPL BOX REAR

BADGE NOKIA 38mm PIN30mm R550	84700840	9
CABLE ASSY 2-POLE 210mm	47280004	9
WOOFER 4910141305 LPB100/19/110S	33004577	27

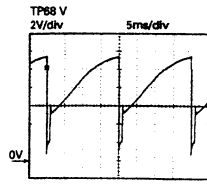
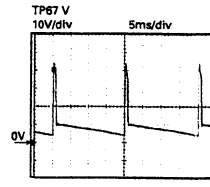
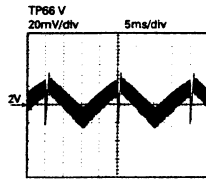
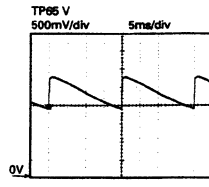
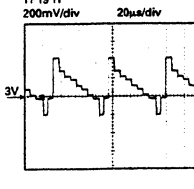
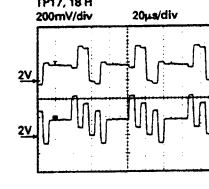
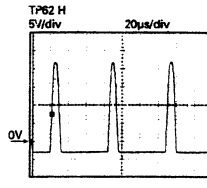
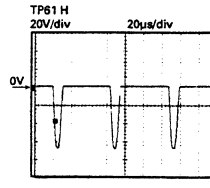
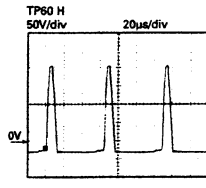
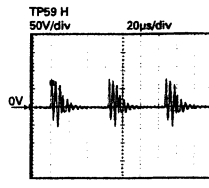
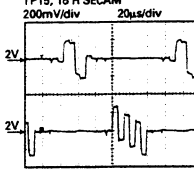
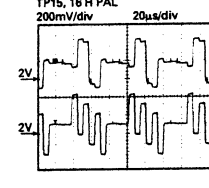
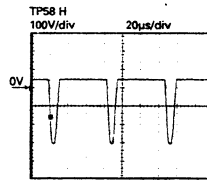
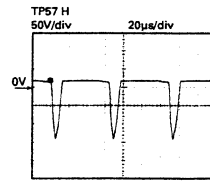
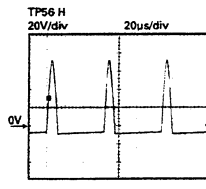
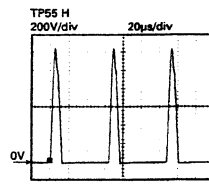
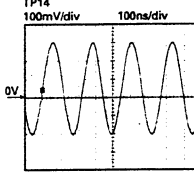
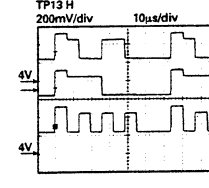
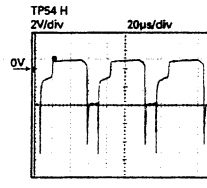
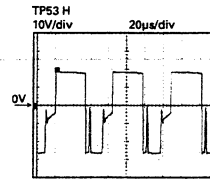
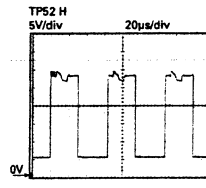
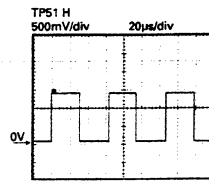
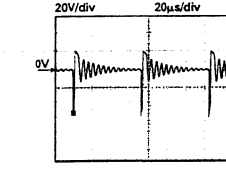
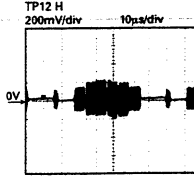
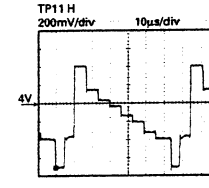
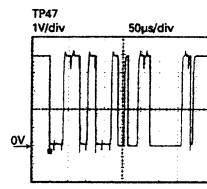
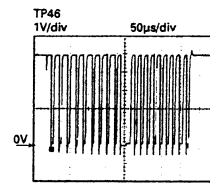
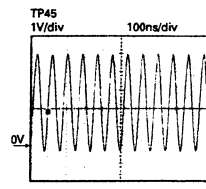
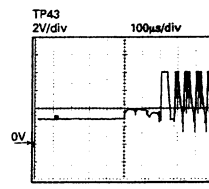
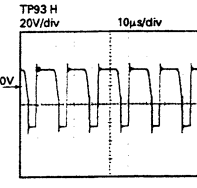
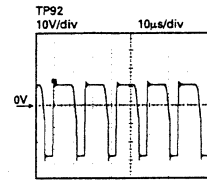
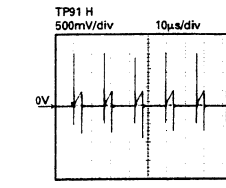
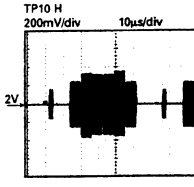
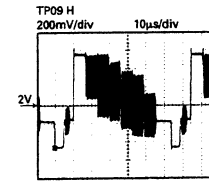
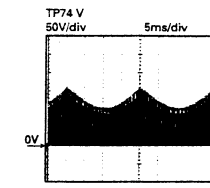
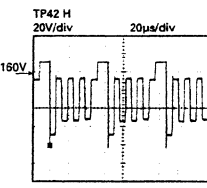
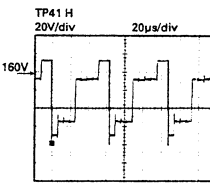
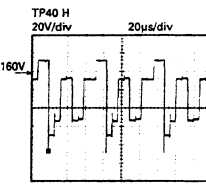
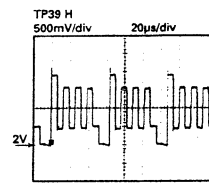
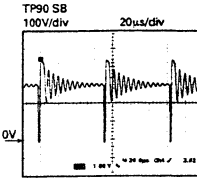
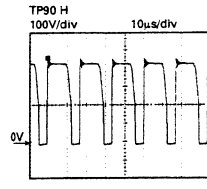
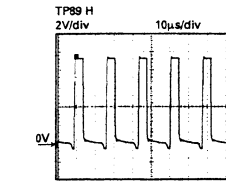
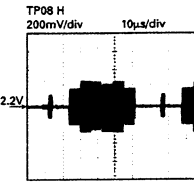
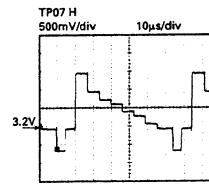
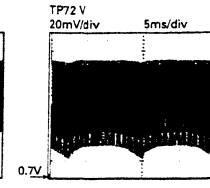
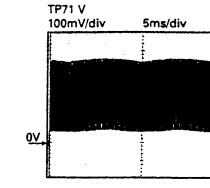
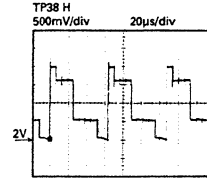
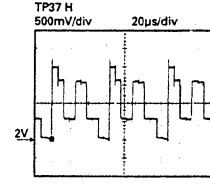
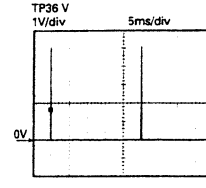
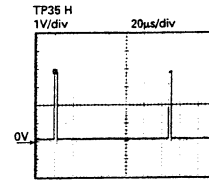
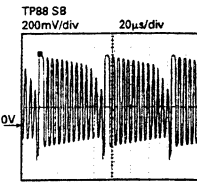
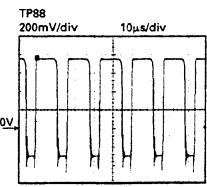
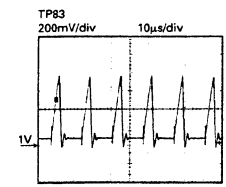
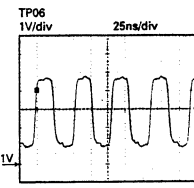
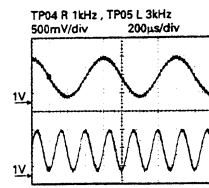
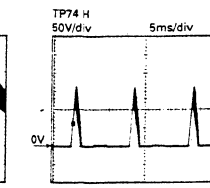
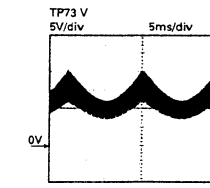
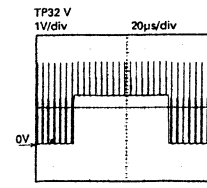
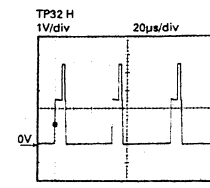
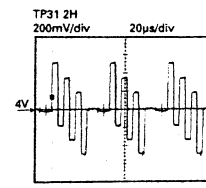
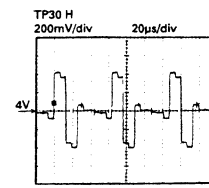
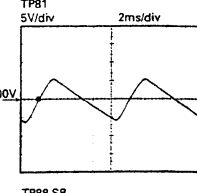
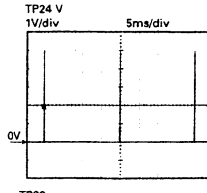
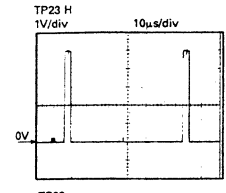
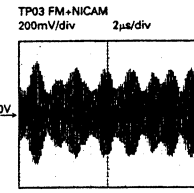
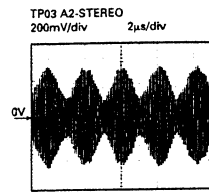
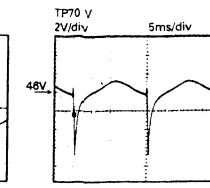
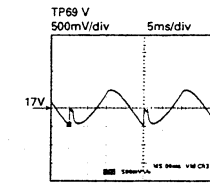
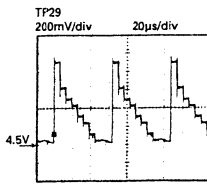
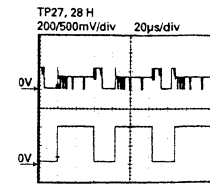
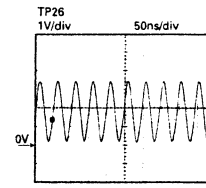
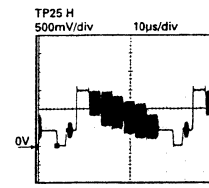
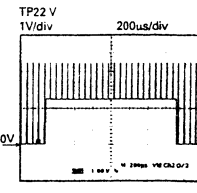
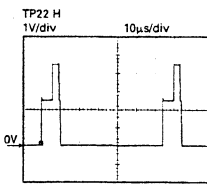
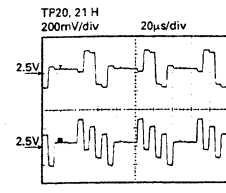
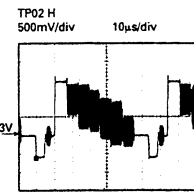
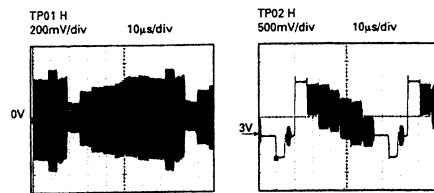
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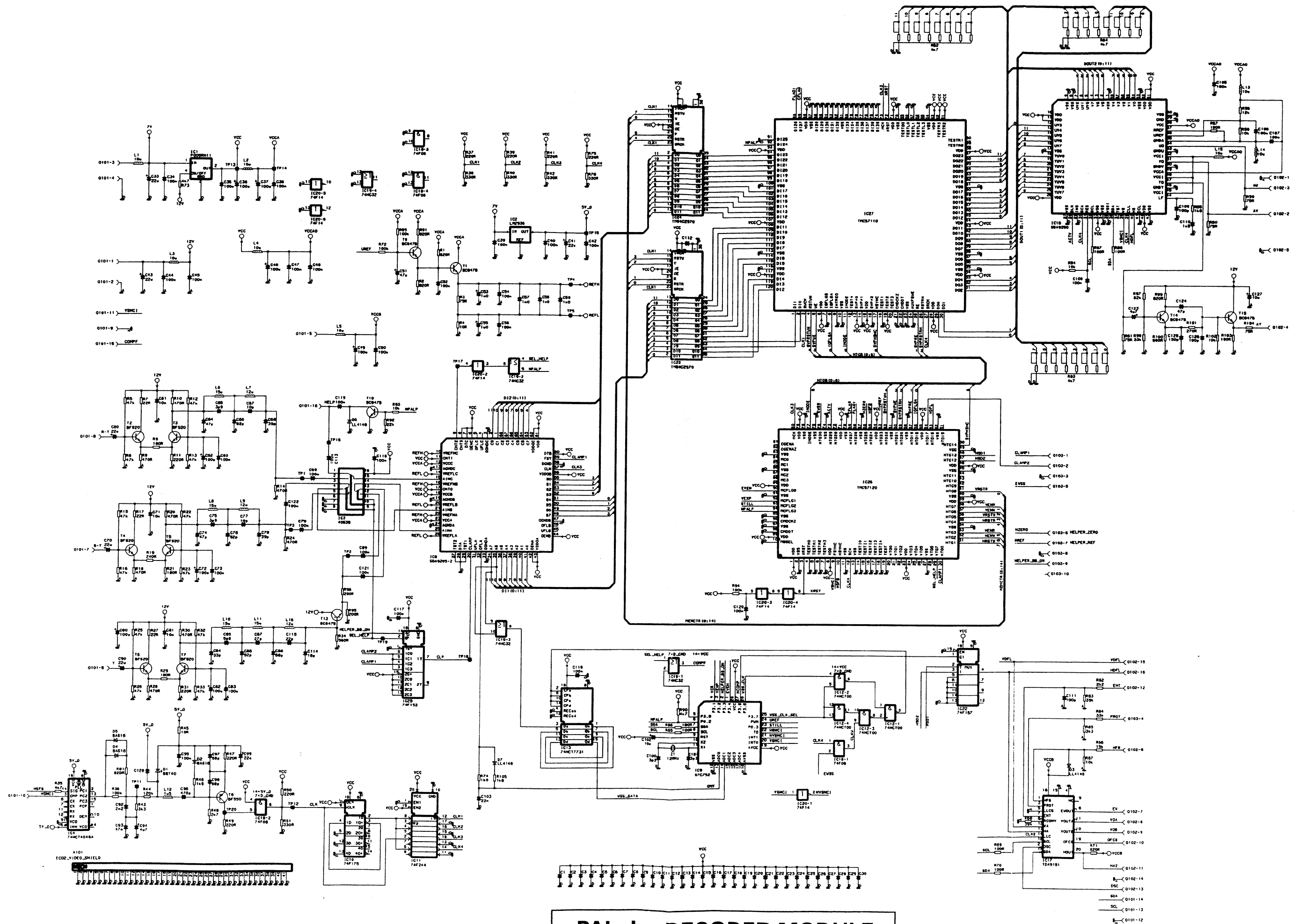


Item	Description	Order no.	PG	Item	Description	Order no.	PG
01	Cabinet 32 B2 Graphite Gray	E82000033	42	41	Control unit B2	ESY660	38
02	Grill right Graphite Gray	UC512N	20	42	Control unit frame B2	E80311214	14
03	Grill left Graphite Gray	UC513N	20	43	Control module	EFC600	36
04	Speaker LPB511/14/90SC	QP0122	23	44	Module support	E81408167	03
05	Pt-screw KB 40X10	WC0353	03	45	Mains switch 250V 4/80A	G41210005	12
06	Sub.woofer box	SCE070	35	46	Touch guard	UG0636	04
07	Bass box fastener 32 B2	E81408305	12	47	Pt-screw KB30X8	WC0371	01
08	Screw AB3,5X9,5	WC0308	01	48	Button	E80425203	01
10	Picture tube W76EDL013X101	E46003157	99	49	Spring	UC3051	03
12	Dema coil holder (33)	UG0625	02	50	Mains button B2	E80425234	04
13	Picture tube pt-screw 7X40	WC0207	06	51	Lock F/V-2	E80413473	06
14	Ground braid 32 16/9	E96011065	13	52	Flap PAL PLUS	E80420576	16
15	Demagn. coil 16 X 9 32	FD0332	30	53	Badge Nokia 51mm	UA1243	08
	Compensation coil 16 X 9 32/36	E93030070	21	54	Badge Nokia Technology	UA8005	10
16	Lead band PLT 2 S 4,7x200	UJ0211	02		Antenna cable 2.0m with ferrite	G47780002	20
17	Degaussing coil holder	E80424133	05		Lead band	E54041380	01
18	Grounding spring	E81401082	07		Lead band blue	UJ0134	02
19	Mainboard 50Hz	EAPRAFB	99		Lead lock	UG0086	02
20	Rear plate 4 (—/TA601)	E80409532	13		Loudspeaker wire bundle	E96010087	11
21	Touch protection 100/50Hz	E80409511	09		Picture tube adjusting piece 32	E80409459	02
	Add. touch protection 100Hz	E80409597	04		Wire bundle PK/K	E96008117	05
23	Chassis holder left 100/50Hz	E80409535	06		Wire bundle PK/Z	E96008179	07
24	Chassis holder right 100Hz	E80409542	09		Active subwoofer	EAV601	28
25	Connecting piece 100/50Hz	E80409568	03		Comb filter module	ECF602	35
26	Connecting plate 1/2+4 heatsinks	E80409504	04		Helper module	EDH600	30
27	Focus holder	E80409580	09		PAL+ decoder	EDM600	60
28	Focus pot 100M	G31260001	28		If-module B/G,DK,I,L,L'	ELL675	39
29	Dynamic focus PAL+	EFO670	36		Remote control Nokia Grey	ERCN600	29
31	Crt module 50Hz/SVM/DF 32	EHH653	33		Aux-module	ETA602	28
32	Protection for main board	E80409600	05		SVM-module	EVM601	23
34	Mains cable 2,25m	E70003789	12				
35	Strain relief	E80409573	02				
36	Back cover B2 32 16/9	E82403211	38				
37	Pt-screw KB 40X20	WC0354	01				
38	Cover for connectors grey	E80200710	08				
39	Rubber pad	UL0104	03				
40	Pt-screw KB 40X40	WC0429	02				



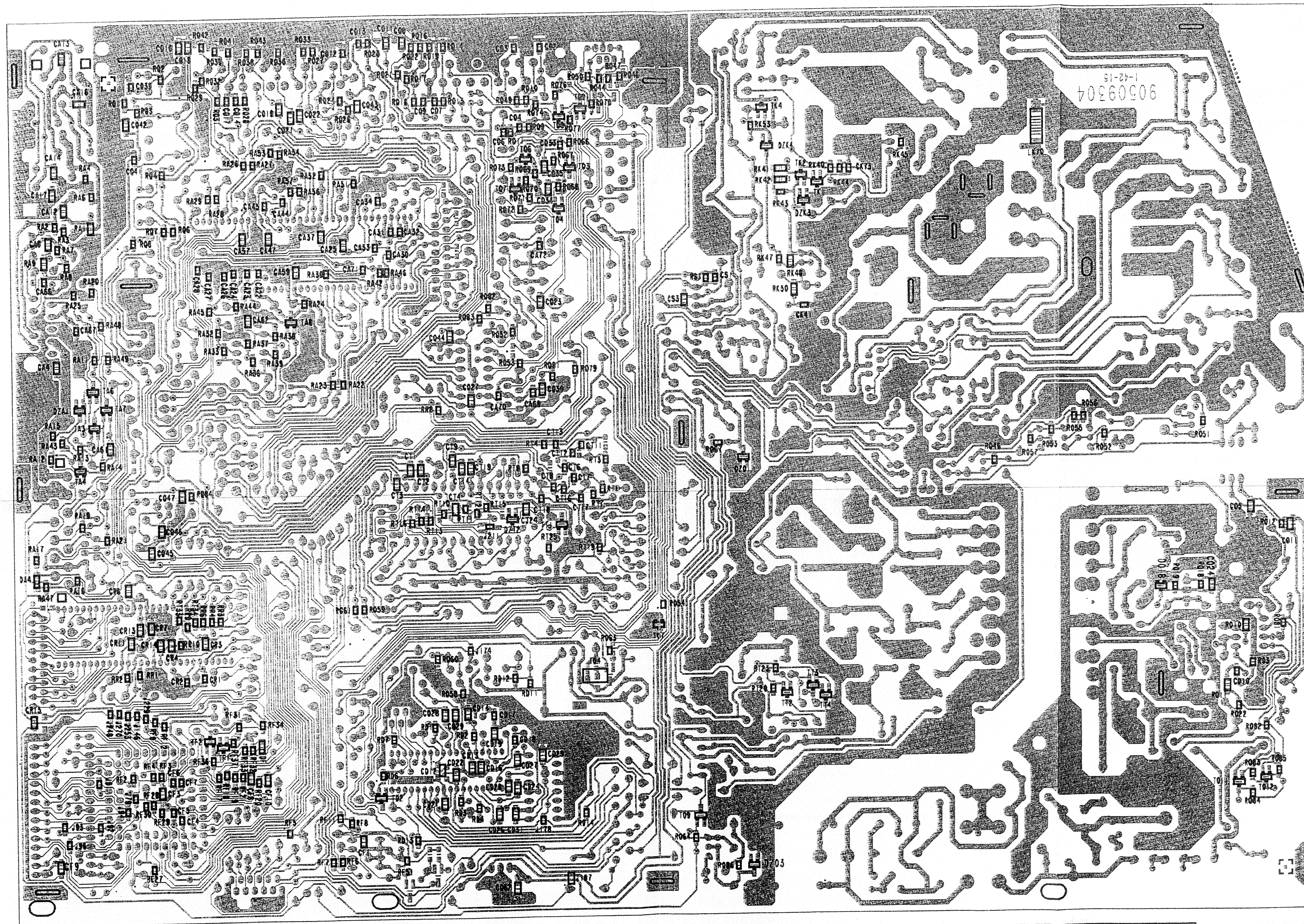
Item	Description	Order no.	PG	Item	Description	Order no.	PG
01	Cabinet 32F7 Mat.Digi black	E82011800	36	33	Control unit frame	E80311011	13
02	Grill left	E80101030	24	34	Button	E80425203	01
03	Grill right	E80101040	24	35	Control module	EFC600	36
04	Trim upper Metall black 17060	E80201080	27	36	Module support	E81408167	03
	Trim upper Dark Cherry 33235	E80201081	27	37	Pt-screw KB30X8	WC0371	01
05	Trim lower Metall black 17060	E80201090	44	38	Mains switch	G41210005	12
	Trim lower Dark Cherry 33235	E80201091	44	39	Touch guard	UG0636	04
06	Foot pad	E80424027	06	40	Spring	UC3051	03
07	Speaker LPB713/19/65	G43120005	21	41	Mains button	E80425241	05
08	Tweter LPH50/10/100SK	E33004365	19	42	Lock F/V-2	E80413473	06
09	Pt-screw KB 40X10	WC0353	03	43	Flap DPL PAL+ 8	E80402490	15
10	Woofer box	SCE063	38	44	Badge Nokia 51mm	UA1243	08
11	Picture tube Tos W76KYR690X01(B)	G43643201	99	45	Compensation coil 32	G45820005	18
11	Picture tube Vid W76EGX023X115	G43643202	99	47	Mains cable 2,25m	E70003769	12
12	Picture tube holder	G84480810	04	48	Screw 4x12	WC0344	01
13	Holder	UG0625	02	49	Crossover network	EAJ603	21
14	Tube pt-screw 70X40/18	WC0422	05	50	Support for picture tube F7	E80409743	06
15	Grounding braid 32 16/9	E96011065	13		Lead lock	UG0086	02
16	Demagn. coil 16 X 9 32	FD0332	30		Surround module	EAR602	48
17	Degaussing coil holder, long	E80403115	05		Active subwoofer	EAV601	28
18	Degaussing coil holder	E80424133	05		Comb filter module	ECF602	35
19	Grounding spring	E81401082	07		Helper Module	EDH600	30
20	Main board 50Hz 16:9 Toshiba	EAPRAAL	60		Pal Plus decoder module	EDM600	60
20	Main board 50Hz 16:9 Videocolor	EAPRFPL	60		Focus pot. module	EFO602	21
21	Rear plate 3 (AR602-)	E80409531	12		If-module B/G,DK,LL'L	ELL675	39
22	Touch protection 100/50Hz	E80409511	09		PIP module without tuner	EPP600	48
23	Add. touch protection 100Hz	E80409597	04		Remote control Nokia	ERCN610	28
24	Chassis holder left 100/50Hz	E80409535	06		DPL box rear Nokia Mat Digi Black	SCE080	40
25	Chassis holder right 100Hz	E80409542	09		SVM-module To 32"	EVM604	21
26	Connecting piece 100/50Hz	E80409568	03		SVM-module Vid 32"	EVM602	21
27	Connecting plate 1/2+4 heatsinks	E80409504	04		Wire bundle PK/Z	E96008179	07
28	Crt module 50Hz/SVM/DF/Tosh.	EHH656	33		Loudspeaker wire bundle	E96010087	11
28	Crt module 50Hz/SVM/DF/Vid	EHH655	33		Wire bundle PK/K	E96010164	08
29	Protection for main board	E80409600	05		SVM-wire bundle	E96010176	07
30	Back cover F7 32 Mat.Digi Black	E82403250	35		Cable ass 2-pole 800cm speaker D	G47580038	17
31	Pt-screw KB 40X20	WC0354	01		Cable ass 2-pole 800cm speaker	G47580039	15
32	Control unit	ESY650	37		Ant cable ass 2.0m with ferrite	G47780002	20



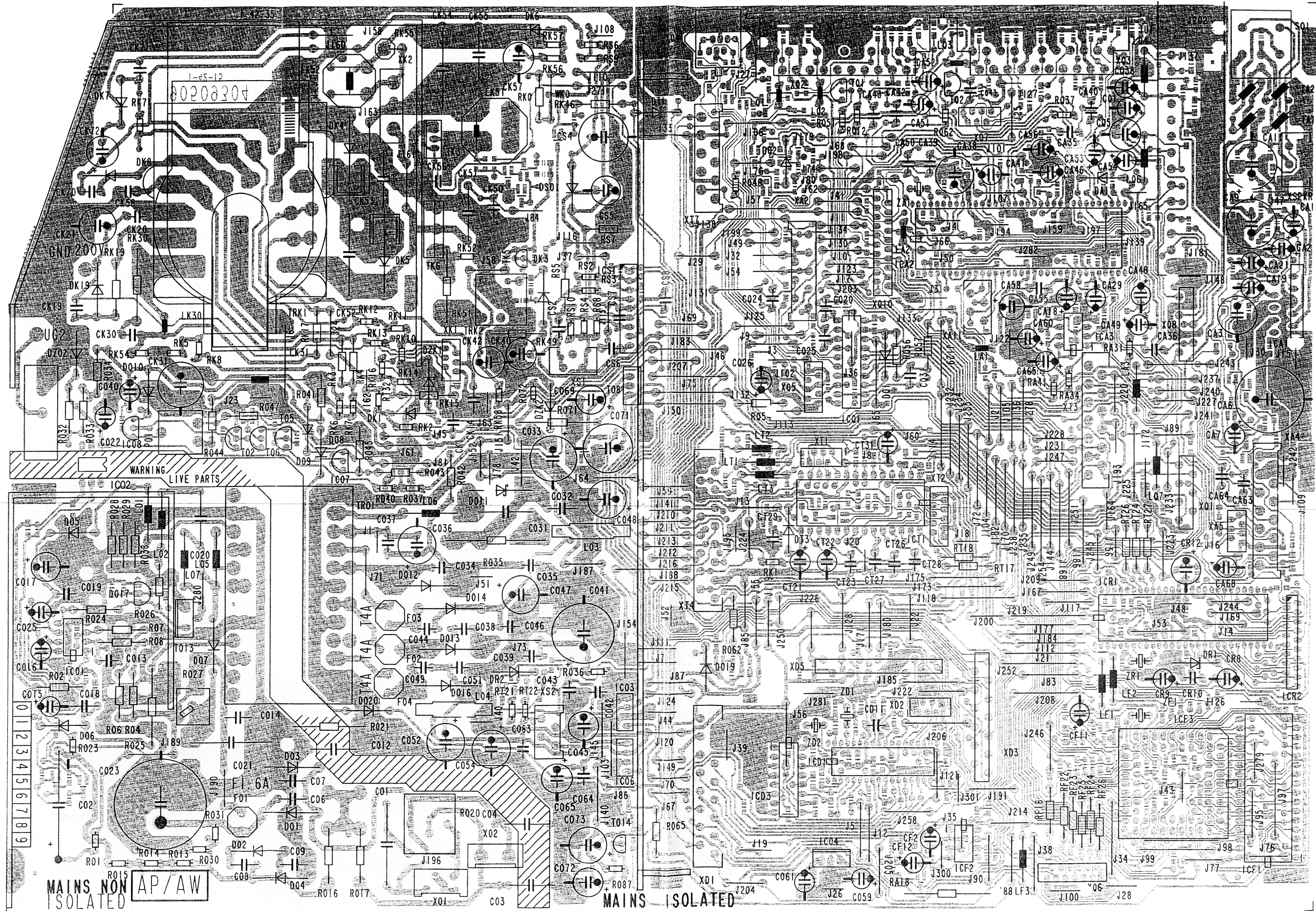


PALplus DECODER MODULE DM600

6611 72 24



**FEATURE STEREO
FP-CHASSIS PALplus**



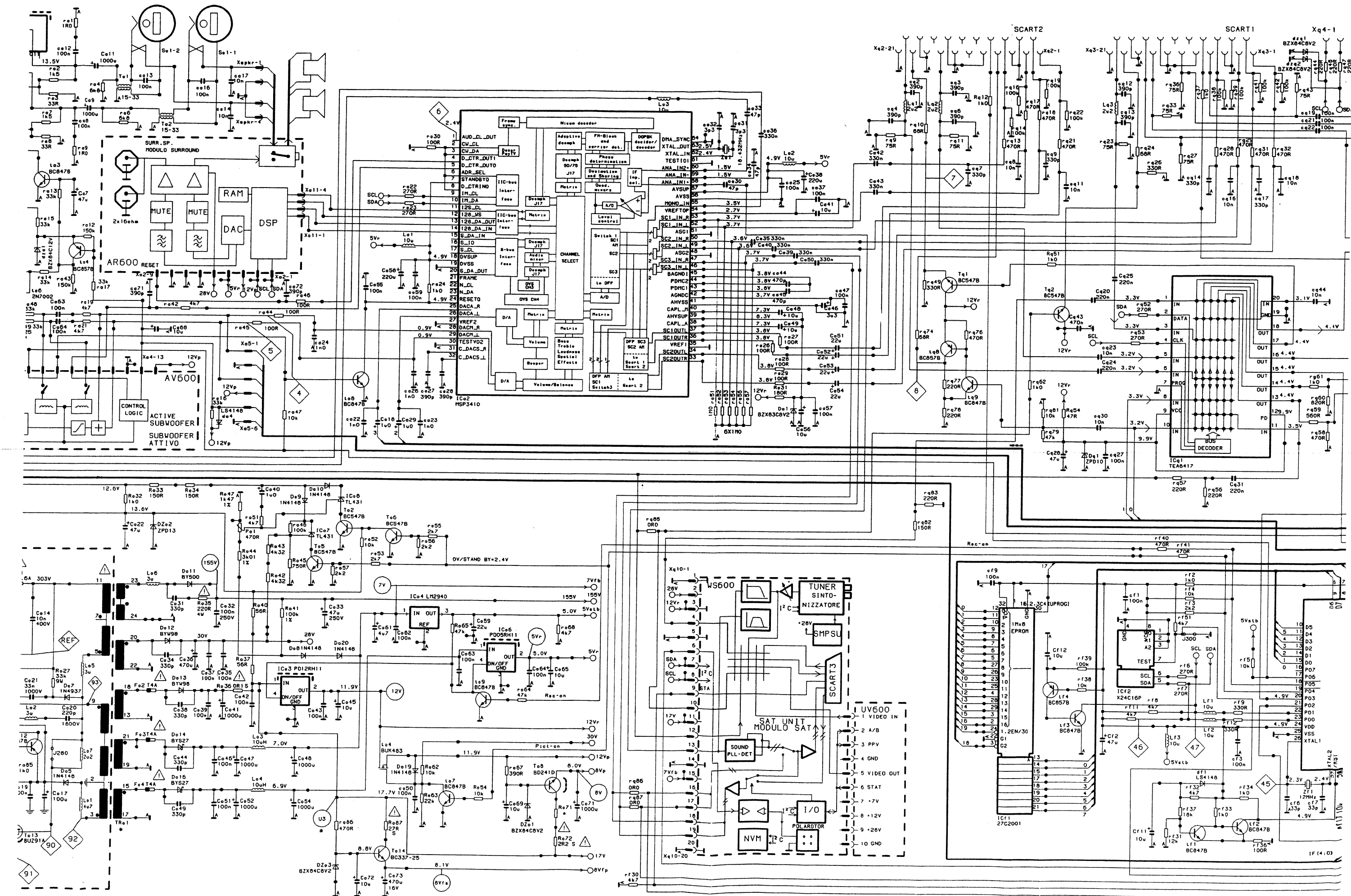
1-42-35

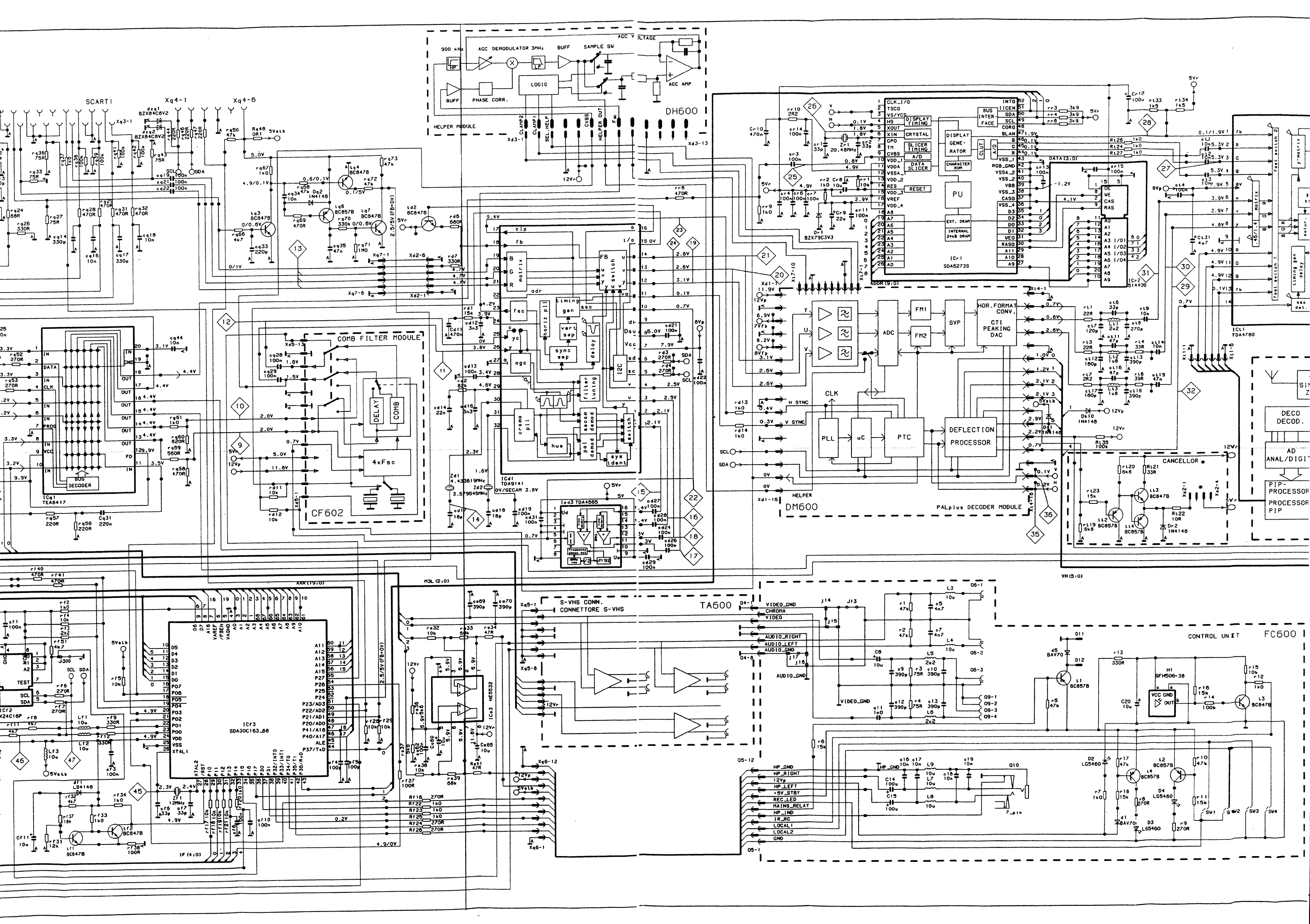
WARNING
LIVE PARTS

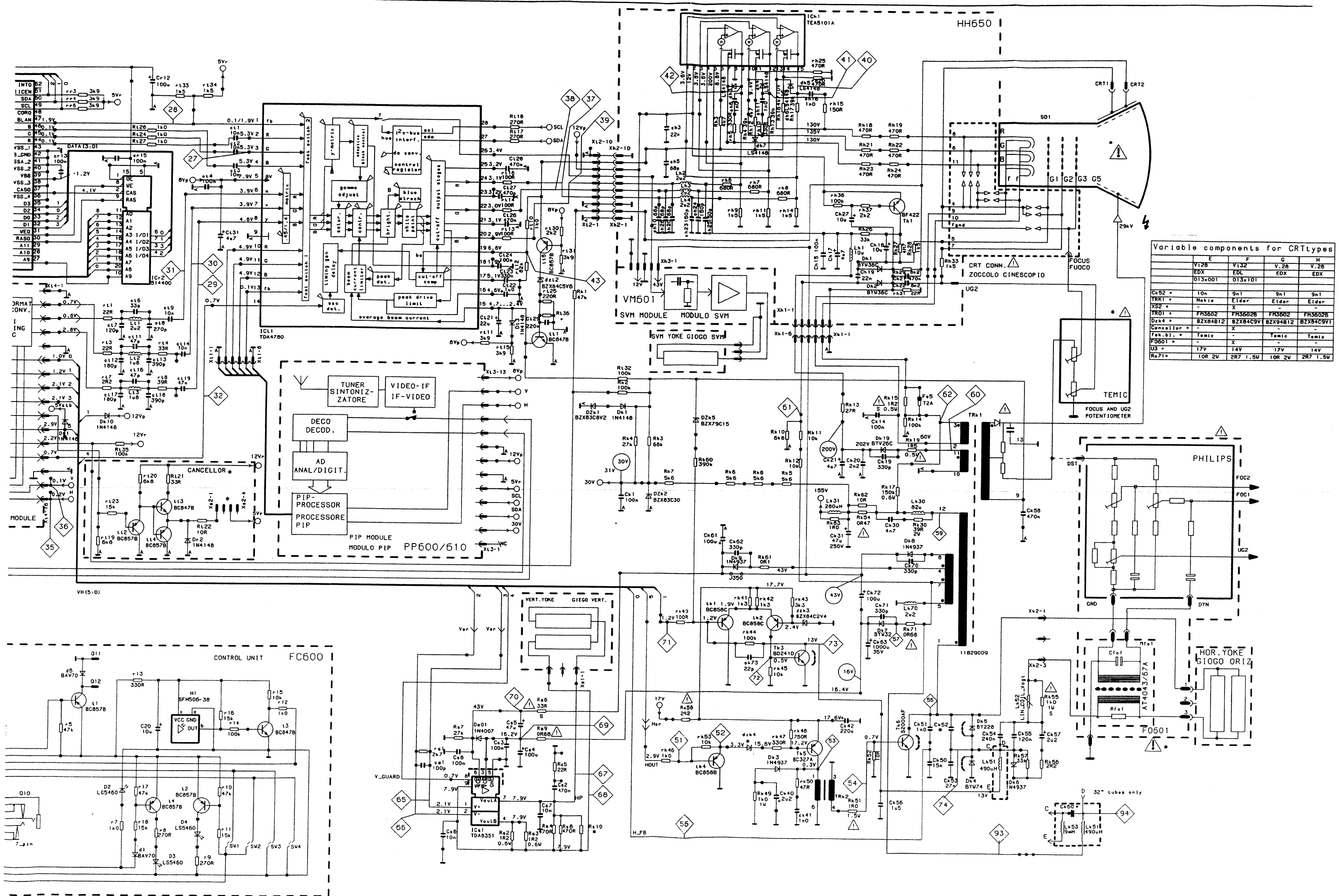
MAINS NON
ISOLATED

MAINS ISOLATED

1-42-36







Variable components for CRT types

	E	F	G	H
V128	EDX	EDL	V.28	V.28
EDX	EDL	EDX	EDX	EDX
013x001	013x101			
Ck52 *	10n	9n1	9n1	9n1
TRK1 *	Nakie	Elder	Elder	Elder
X52 *	X	X	X	X
TR01 *	FR3602	FR3602B	FR3602	FR3602B
Dk4 *	BZX84B12	BZX84C9V	BZX94B12	BZX84C9V1
Cancellor *	X	X	X	X
Fok.b1. *	Temic	X	Temic	Temic
F0601 *	X	X	X	X
U3 *	17V	14V	17V	14V
Re71 *	10R 2W	2R7 1.5W	10R 2W	2R7 1.5W